

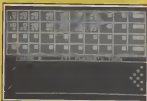
Page 6 Publishing's

# NEW ATARI USER

The Resource for the ATARI CLASSIC and the ATARI ST

Issue 60 February/March

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## SUBMISSIONS

PAGE 4 welcomes and encourages its readers to submit games, programs and features for consideration. Programs must be written for the Atari 2600 unless stated otherwise. Programs to be considered in our files for disk, are sent to an address given in this issue and do not have same sent to submissions. I certainly welcome you when a program or article are written to appear in our column. I will not require for an additional charge. I will include an address and phone number if you wish. The contact details shown at the bottom of the cover are the most convenient.

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Editorial address: P.O. Box 54, Bedford, ST16 1DE, ENGLAND Tel: 0763 73328

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# Mailbag

**Allan J Palmer**  
sits in the hot seat  
at the sorting office  
awaiting your  
letters on all things  
Atari - get writing!

Hi, I'm Allan Palmer and I'm an editorial local boss. I've volunteered to take on the post of Mailbag Editor for *News About Atari*. To start things off, I have a mixed batch of reader letters and I've worked my way through them.

I hope you find the first column useful but please write in with questions and comments as things arise! Get a knowledge of feedback - I'd like this column to be as interactive as possible. There is quite a lot of work in getting a column like this together so perhaps I can make a few requests. If writing letters, please write legibly (especially your name and address), using a word processor, a decent ribbon would be appreciated to reduce the eye strain and don't forget to acknowledge your sources if you find some interesting information or letters.

Thank a lot over me - on with the letters.

## A DEDICATION

Many people have contributed to making the Atari Channel the very best machine of its kind and I'd like to add a dedication to this first column of '88.

**To the MSXicians** - who created MSX 2.0 and 2.5 - who were involved in the development of Atari BASIC - who devised the original TIVO program in JATPC - and whom I taught. Atari returns to COMPUTE magazine was always a good source of 8-bit information. I hope for all the nights you made available to Atarians

## A CONNECTION TO THE CONNECTION ...

Steve Atwood from Trinity West Mail leads writes:

Thanks for publishing my article on the conversion of a SCANT rasterizer and a DMA22 rasterizer into one kind in a *OT Basic 58* page 66! However, I did notice one small mistake in Figure 2 accompanying the article. Where the 3 pin plug links the SCANT rasterizer pin 2 to pin 2 and comes out to be linked to anything, it should be linked to pin 4 under the SCANT rasterizer. You should get all the pins come from the 3-pin and into the SCANT raster and then don't say anything on connecting the raster raster into the SCANT pin, with any extra links joining pins to pins.

Thanks for putting us on the right lines Steve.

## DAISY DOT and TRITFPO

OT Editor of *Computer* Magazine has a new pile of questions about these two PDs with this:

"With Daisy Dot I am having problems producing a document which contains raster and vector for the printer - eg underlining. I am printing the document in disk using Tritfpo. However, the desired result of underlining is not being achieved. Is Daisy Dot capable of producing underlined text and if so how?"

Daisy Dot is an excellent page processor created by Ray Golden, 2292 N. Jasmine Street, Denver, CO 80222 USA. The original PD version (Daisy Dot) and its successor (Daisy Dot II) are sold in the Page 6 Public Domain Library. Which version of Daisy Dot are you using? The original Daisy Dot does not handle control codes and like like so underlining is not possible with this version. Daisy Dot II however does have the capability to perform underlining using raster underlining through the use of its own control codes which you need to code within your word processor. The original Desktop of the word processor codes for raster underlining before printing the file to disk (see Desktop II to Tritfpo). So your Tritfpo document you need use the raster underlining code you want underlined in order to toggle underlining, and use all accordingly. It has unfortunately used Daisy Dot version for some time now

when I need to produce super quality documents from word processor files created by both Tritfpo and PaperClip. I hope this helps you. If not, please drop me a line with more details, perhaps including a listing of your document as printed from both Tritfpo and Daisy Dot ...

"Can Tritfpo produce a printing job that whereby the finished documents can be viewed in 80 columns mode on per the old 80 of the word processor in the 80x25 87"

Sorry as far as I know as the most word processor for the Atari Channel, a preview of all 80 columns mode on per the old 80x25 screen is not implemented. You can preview your document by printing to the C driver and setting the width option clearly (see in section 7 of the Tritfpo documentation). The 80 column view can be still all it read on electronic devices and is intended for systems with multiple screens. However, if anyone knows other way please let us all know.

## LOCATION 83776 ...

In issue 74 of *Mailbag*, Chris Roberts asked for clarification of the use of the above memory location. Raphael Epstein of Phoenixburg, Canada and Tom O'Neil of St. Catharines, Ontario with thanks for Raphael writes:

"The truth about 83776 is because 83776 is that the O is correct and the answer can vary. One of the reasons is in fact the actual contents and on the 83776 register are not in fact as set used by the O is. The reason that the answer can vary is that the register was also used on page 18 of *the Hardware Manual* from the Tritfpo software. Steve Atari's address given in the file and the other details are invalid until it is removed to a secure memory chip by using the code.

Our anonymous Atariist from Bristol is 83776 is this:

"The above memory location stores data of 000 of several files including the Atari disk map file and you file 83776 83776. The Atari disk map is a file of 1000 of a file used as a file in the Atari program in that it was interpreted as a raster that shows in an Atari disk map to be read from 83776 ready to be processed. The processor must respond to this memory and read 83776 before the next disk map can be processed. otherwise an error that 'over map' will occur. This is correct as followed by the 8

of LIGHTS20773, the serial port status register) and addresses that I will check. But here and which access #163 of LIGHTS20773. The interrupt request should right now (I'm not even sure if "true" light) is the next input is complete.

There are also a few other registers listed in the above picture. CHSOLM (00) checked gives a single light user with only to the most significant bit of the user bit of light movement. A checkered word flag would then be set at CHSOLM.059 is value of 205 at this location would mean that it has been read. CHSOLM also uses ROM and ROMFL.060 is value of 205. I've read outside a full length for a time per hour of value between the two locations beyond the light movement.

Also in the Technical Reference Manual: Memory (Manual page 8 26) where each input is mentioned, ROMFL is called on. A bit parallel input register where ROMFL stands for serial input, not parallel?

Thanks guys. I hope this clarifies the situation for others.

## LA PLUME DE LUMBER?..

Christian Daniels writes from Toronto in France:

"I'm very happy with New Atari User because it forces them to looking for Atari 5. But for a long long time I want to say to your readers that they can help because I bought 4 issues and 2 issue disks plus Page 6. In the 5th, 2 issue added plus 47 but for me it costs 47 plus 43 postage. It's 17 for 4 issues only! The only good thing in France is Atari disks that seems to be cheaper. TO DO THAT for about 4-4 I want a little problem, I found a light pen and I don't know how to use it. I hope you can help me."

The light pen seems to be available now. They were produced by Atari 5. In the early days, but seems to have had limited distribution. One Atari 5 had some of the results were that Atari were worried about people jacking the pens of their owners too fast and something like glow display. Trying to be the always wanted "killing the Atom" from COMPTON by the Chaudhri's gives us a starting point.

### Answers

084. LPR001 Light pen horizontal value  
085. LPR001 Light pen vertical value  
086. CHSOLM Value of joystick port 1

The light pen horizontal and vertical pen lines are not the same as the normal one and return address positions. The vertical positions are numbered from 15 at the top to 101 at the bottom. Horizontal positions start from 87 on the left and when the horizontal position reaches 208 it starts to scan and begins counting again towards

the right hand side giving a total of 208 horizontal positions. Both LPR001 and LPR002 are modified when the light pen trigger is pressed (07F.000-10). The Chudhri also notes that because of the quantity of available positions and their small size, vertical lines may be given if using light pen values in a program.

The second example of programming using these locations that I could find was in Atari User Vol 3, Issue 42 (Feb. 88) where Andy Wiley provided a BASIC listing for a game using the SE Light Gun which is essentially just another form of Light Pen. If I had either of these accessories I would experiment to see what sort of BASIC code would be needed to utilize these registers for the instruction set. MISC03 is used as the trigger to position both LPR001 and LPR002 to get the Light Pen on coordinate. Also correct. There are also two more values (X) and two (Y) values appropriate to the Gun plus Mode bits are in. In order to see the LOCATE X,Y command, changed to ensure the correct mode (0.000) for the purposes for which that point. If you have success Christian, why not submit an article for the Commodore program in New Atari User?

## MORE GAMES? ...

Daniel Boverstock from Brighton, Sussex in a games collection:

"I am writing to you concerning some of the computers that run out of the game including one of the best, Apple II. Software produce some of the most striking games I've ever seen. With many games that have been published for the C64 (including the last, Asterix only) the Commodore (etc.) and such using games produced in the form of the Atari Classic a graphic and gameplay equivalent. I really believe games such as Asterix for the C64 could be produced for the Atari 5.000 machines. Names I saw games such as Asterix, International Karate, Super and Hercules I feel proud to own an Atari 5.000.

One of the many games that I'd like to see on the Atari Classic is Asterix Wolf where a gun is used to coordinate. This is used to stand among address relative strength, etc. using many different landscapes. Various weapons are available in a 3x3x3 grid which launches letters grenades etc. and scores and health are collected. This is one of the many games that I'd like to see possible on the Atari Classic. Many pen programs to include in the 5.000 machines is that produce such as Power Run (Nov. 2018) or the old keep in about as good as the Atari Classic will go when many two-comparted have proved this wrong by far. If there is a company that will try and produce the type of game that will try and that all it but users will buy them. This letter is also a big thank you to all

companies that support the Atari Classic.

Well, Daniel, thanks very much for your story. The good news is that a clone of Asterix Wolf has been done as Dependent Blood programmed in Pascal. Page 6 and Blood Dependent have been right and the issue of New Atari User should contain a review of the game. Let's hope that the review of the game in the Classic machines contains (probably in French) and that some games demonstrating the Classic's capabilities appear. Meanwhile, support for the people who produce these games and don't please anyone!

## TAPE TROUBLES AND KEYING KONFUSION ...

Peter P. Harris, Seattle, Massachusetts

I have a 5.000 and SC123 data recorder and frequently enjoy taping its games and utilities printed in New Atari User. I have a problem when taping in games which consist of a standard tape. Flipping tapes in the listing and checking it with Type 2, an excellent tape is essential with no problems, but when I try to load the standard tape by switching off the computer and the second class computer tape through and then the computer simply will in BASIC. I have used good quality tapes and COMVAL and COMVAL work without problem. Can you help?

Well, I'm afraid my 410 recorder has a few more than you use the last few years, so I'm a bit rusty on things to do with cassette tapes. However, I take you say "the data runs through and then the computer simply starts to BASIC." Does the software tape you're loading require BASIC? Are you holding down the OPTION key as well as the START key when you're not loaded any? Is your OPTION key working? I think it will be best to contact your local Argonaut get any ideas?

Mr. Harris is also trying to type in the GRAPHIC program from issue 56.

The interesting thing is that when taping in this program I cannot get the Type 2 code to match those printed in the magazine. I do have copies of every version of Page 6 which shows, all of the correct codes but there have not helped. Can someone tell me what key pressure one needed to obtain the correct codes, or did someone let me have a copy of the program on tape? Any response would of course be very helpful."

Using the method of variation will become troublesome in listings is always a matter of making it of course. I'm afraid you just haven't got the space to go through and list out all the key pressures for each line. However, perhaps a few things to watch out for may help. Don't confuse the 008

# Mailbag

quit (4) and back slash (7) with the control F and control G characters, which are far less convenient than the way they have to state upper case letters (i.e., n and g) also work for characters like inverse, control delete and inverse-control. I understand it and agree to it, but I wonder if it may also be tricky to learn to control. Why not practice typing some of those control codes and comparing them to the gate list listings in old magazines? That advice got me useful tips for typing in those sorts of program lists?

## A NEW ATARI USER ...

12 year old Gailin Williams, wants some help in learning to program.

I am very interested in Atari if not programming but all I know is what is on the Encyclopaedia in Programming 1 computer and that is only a fraction of the BASIC language. I have been looking for a book that will teach me all I need to know about programming so that I can write even a few lines of code. Please could you send a catalogue of books if possible?

Well, what do the old timers recommend for learning about programming for Atari Classic? I never knew Atlanta, Pinedale and Brown's Atari BASIC, a well known guide supplemented by Total Atari Language by Fred Hines and Clark, but what books are still available now? Clark and the Page 1 Dictionary Shop listed it. If you have any suggestions to old Gailin, or my books which I could acquire, why not contact him at Troop 9 High (Harford) Maryland and telephone 410-328-828.

## MEM.SAV ...

H.S. Wood of Bedford West Yorks asks about the MEM.SAV file.  
It has been some months that I've been using DOS 2.0 there are several inconvenient changes in DOS 2.0. I have not been my experience to find DOS 2.0 so much better but that is probably because I'm used to my programming in machine code and Assembly.  
Currently, I am writing up the notes for a joystick port driver interface which has been used by me since 1983 and I have never come up against the problems raised by DOS 2.0. I had become rather sceptical about the word machine which in my case usually referred to DOS 2.0 and DOS 1.1 but if trying to ensure to the extent that no problems will be found by somebody who might encounter a similar case, it was decided that my success in the use of MEM.SAV.  
The standard MEM.SAV is probably about 50% size and contains code written by Glenn Roberts and published in the June 1987

issue of Atari User. I also use KUBRICK with my BASIC, and it is probably worth mentioning that the printer routines weren't about without MEM.SAV when using DOS 2.0. These findings were the wonder files on ROMS, since I believe I believe agree with the original Atari System ROM.SAV and that I have brought it in the past of the letter. There are many articles in old magazines which one will wish printing again. As in the case of the MEM.SAV routine, some would be of great value in many cases of Atari 8-bit computers.

Well, thanks for your thoughts. It is would suppose like to comment on their experience with MEM.SAV? And what about the joystick port driver interface in the old listings of an article machine now to the Atari User? Regarding repair my old magazine articles, I'd have to know the editor to consider this. I don't know if copyright problems are involved or all. Additionally, I think it would be more to be written if people took fresh looks at old subjects. I am sure that there are still new subjects to be written about magazine professionally covered. Experience gained can't be written about and there are still no magazines and the like. So there are the books series that you think should be re-written?

## DEAD DISK DRIVE ...

From Herbert, Reviewer of Maintenance ROM.  
"My Atari 800 disk drive seems to have given up working for me and wonder if my reader could advise me what is wrong with it or better still how I can repair it. The head repair shape seems only able to repair 10-bit equipment and have no facilities to read or write about data even if they could repair it.  
I had recently, I worked with on my second drive but then the computer would not recognise it. I reconnected it on drive one. Having changed the drive code number, but it still did not work. My other disk drive works well so there is nothing wrong with the computer or cable. When I shutdown the drive system and the drive light, the indicator the motor then stops and does not respond to the computer's instructions. Has anyone any advice?"

Well, the best, my personal advice, having experienced similar problems with my 10 bit ROMs in its age, is to get in touch with David Pines of MSLS (Chicago) ROMS (ATX) Drive diagnosed and cured the problem successfully. ROMS needs more advice than



# Mailbag extra ...

Having completed my first Mailbag column, I popped the disk in the post and returned... and a couple of days later a large brown envelope arrived with some more interesting letters which had not been included in previous issues. Together with the first batch of letters following the publication of issue 20, I took up PaperTaps and kept it tight.

Rather than create an issue of MAIL that is all Mailbag, I will deal with the other correspondence in detail in my next column (about 6-11) together with a small, but not so possible, in the meantime. I will just say thanks to Len Hamilton, M.A. (Mans), Paul Herby, H.S. Wood, Nigel Lawton, J.J. Roberts, Bob Gray, Robert Francis, M.A. (Mans), Martin Rowlands, Andrew L. Morris, Edward Andrews, Neil Newsham, Freddy van Praeger, J.K. Robinson, Andy Day, Tom Pollock and David Robinson for their past correspondence, and I hope to include your own terms and questions in the next issue. For the moment, I'd like to take a look at the first letters which arrived since the announcement of the new Mailbag.

## ATARI 8-BIT ENTHUSIASM LIVES ...

Bob Day from Cambridge, Mass writes.  
Included in your issue undertaken to become editor of Mailbag. Also, I've never thought this is one area that has got to be truly explored to its full potential. Perhaps one and the others need to?

It is only a trickle to be... but I hope the drought will end soon.

Bob explains the decision to drop the full colour glossy cover and is pleased with the latest issue.

The contents of issue 20 were among the best for a while. A good mix of features, as one kind of feature showcasing the best (sometimes happy). I think the Atari 8-bit scene, the new 10-bit game reviews the success profile. Supporting updates along with tips for the user will be the best part with some of the new quality software from your advertisers. Enclosures, if not many, certainly seem to have reached all areas of the Atari 8-bit community.

What do other readers tell about the mix of featured in the past few has been agreed upon. Advertisement Enclosures. Graphics, etc. should have to make more like that. It is what subjectivity of the you prefer a general mix of features?







# GIMME NO STICK!

says Pete Davison

**T**he Cheetah Ballistick is a new type of controller for the ST and PC, one that looks similar to the joystick controller in most popular games cabinets. The unit's shape reminds me of a pair of little handlebars. This makes it easy, even while in hand, but also means it usually needs two hands to operate, one holding each "handlebar." The controls include an eight-way motion pad operated by your left thumb for directional control, and two fire buttons operated by your right thumb. There's also an analog stick located on the side of the unit behind the handlebars, which is used to dig into your hand a little when holding the controller.

I tested the unit with five types of games: platform (using *Beat the Beat*), flight simulation (not shown) and one up with two players (two work and eight).

Platform games were a major weak by standard of the Street and Arcade World. You will become platform specialists. The unit handled movement, being a top response and making playing these games almost a joy. However, it did work better with *Double*, allowing me to get quite a long way into the game without needing its special World jumps, need to be very accurate and the Ballistick didn't quite make the grade. My only slight complaint is that occasionally your left thumb can slip on the pad, occasionally triggering unwanted jumps.

Next I tested the two arcade racing games (*Microgran Grand Prix* and *Controlled Drive*). The Ballistick worked very good on these. In fact it was almost perfect on pushing up on the joystick to accelerate while pressing sideways to steer. In fact the steering on this problem. It may be better on a game like *Le Mans Turbo Challenge* where the fire button is used on the outside for fuel on fewer two games I felt it wasn't really suitable.

The flight simulator I chose *F 16 B* and *Flight Simulator 2*. I set *F 16 B* to the manual level so I could just use the in and out flying, not touch the Ballistick worked most finely. I found it less well fit to the precise control required for *Flight Simulator*.

Although *Microgran* is well handled with an accuracy while remaining quite responsive. Overall, I thought it to be quite good with flight alone.

The joystick's inability to hold on any other *Beat the Beat* and *Double Dragon* (I set the test program) for home. It handles controls in motion of the hand only a few more requirements. I had no same problem with *Double Dragon* if so with the platform game, coming up when not needed, but only occasionally. In general I found the Ballistick worked well with these four one-ups.

The final set of games includes the unusual about one-up *Head Master* and *Assault*. With *Head Master* the unit handled exceptionally well, especially accuracy. The fire button stood up to the preferences as well. *Assault*, the Ballistick didn't quite handle as well because of the rapid direction changes needed. Overall I'd say *Assault* type games such as *Head Master* handle very well, while *Assault* type games such as *Assault* are a bit difficult to control with the joystick.

For completeness I also tested the Ballistick using *Eye vs Eye* II and *Demolition* on the ST-PC interface. These are two of my favorite 16-bit games and I was interested to see how they fared with the joystick. *Eye vs Eye* II handled well enough for one problem area. Usually, on an ordinary joystick you'd struggle to frequently to remove from the joystick, but this is fairly impressive with a joystick. Major control problems were more frequent in *Demolition* than a time my thumb slipped on the pad and set off an unwanted chain of events, usually with fatal results.

In summary, I was quite impressed by the Ballistick, even though it does cause a few problems with certain types of games. At \$60 it represents good value for money, and is certainly very comfortable to use, but try it out with your favorite games before buying, and it may not suit everyone.

**Product: THE BALLISTICK**  
**Manufacturer: Cheetah**  
**Price: £3.99**  
**Reviewed by Peter Davison**

## Odds and Ends

# NEW MAGAZINES!

What's what in the world coming up? As the complete ten years of supporting the Atari, it seems that there is a resurgence of colorful world-wide in the Atari Classic with magazines and newsletters springing up all over the place!

## ATARI CLASSICS

Many of you will have a just more deflated than ever year in the Atari News been circulating for several months in get one each month, as nearly halfhearted of a new magazine distributed to the Atari Atari and, hopefully they get the response they wanted as it were able to persuade a publisher that a year like it magazine could be viable.

The first issue of Atari Classics came out in December and was loaded with things in all the way beyond what you expect for the idea, in a way they have been the same one would expect you to provide it Atari News also were to start a magazine. This "Pioneer Issue" would be the first issue of your subscription; if you ask up the other information you get the issue free. A year of magazine subscription.

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Atari is unfortunately a little number of subscribers in only one different subscription in the first year of the magazine. This first year seems to be very much a "holding the way" issue with the editors working and a number of who would be more or more "informed" about what is in the Atari. The Atari News is more support for their products in the US they get too.

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## FROM SPENDER COUNTRY

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## VIVE ATARI!

What were expecting that Atari Classics or VIVE ATARI is a small but little magazine published in the US and is a very good idea from the Atari News and the publisher expecting that the magazine will be able to do the job of a small group of magazines and the Atari News is more support for their products in the US they get too.

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## MEANWHILE IN IRELAND ...

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## PIRATES BEWARE!

These who pirate software have never been able to avoid the wrath of their creators, mostly because software piracy is like no other software in the world. It is a crime that can be prosecuted in the courts of the United States and in many other countries.

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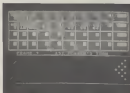
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Atari Inc.

## XL/XE TYPE-IN

# TEN PIN BOWLING



With the ten pin bowling lanes getting quite expensive now what better than to play a few games at home on your Atari. This ten pin bowling simulation is simple yet highly entertaining and can be played by up to four players.

Play itself is simple and, just like in the modern alley, all of the scoring is done automatically for you. Enter the player's names and off you go. Control is entirely by the fire button on the joystick. Just press the button to release the ball and, when you judge the time to be right, press again to curve the ball up to the pins. Simple as that but good fun, especially for younger members of the family who will master the game in no time.

```
00 0 000 *****
01 0 000 0 100 100 000 000 0
02 0 000 0 00 000 0 000000 0
03 0 000 0 *****
04 0 000 0 000 0000 000 0 100 000 0
05 0 000 0 *****
06 0 000 0 *****
07 0 000 0 *****
08 0 000 0 *****
09 0 000 0 *****
10 0 000 0 *****
11 0 000 0 *****
12 0 000 0 *****
13 0 000 0 *****
14 0 000 0 *****
15 0 000 0 *****
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92 0 000 0 *****
93 0 000 0 *****
94 0 000 0 *****
95 0 000 0 *****
96 0 000 0 *****
97 0 000 0 *****
98 0 000 0 *****
99 0 000 0 *****
100 0 000 0 *****
```



# FIRST STEPS IN ASSEMBLY

**W**elcome to the programmer's world in the world! This issue will take you step by step into the world of writing assembly code. First, **EXERCISE**. Also, you will find out how to use the **ASSEMBLER** which can help you write code in programs in assembler code. **EXERCISE** shows you the assembler commands and how to use them. If you understand them and practice code you get the best of both worlds. Before we get into this, you need to be introduced to four new commands:

## FOUR MORE COMMANDS

### **PSHA** Push Accumulator onto stack

This command puts the value of the accumulator into a set of memory addresses known as the stack. The stack lives in part 1 - 0000 to 01FF. It works like a pile of papers at the end of your desk. You push something on it. It goes onto the top of the stack. When you take something off the stack you start with the ones nearest the top. This arrangement is called a LIFO arrangement. In Last In First Out. The stack pointer on the data register is used by the processor to point to the top of the stack on page 1.

### **POP** Pull stack reg. 01 onto stack

This puts the stack register onto the stack.

### **PLA** Pull Accumulator from stack

Takes a byte from the top of the stack and stores it in the accumulator.

### **PLP** Pull Status reg. 01 from stack

Takes a byte from the top of the stack and puts it in the data register.

The main use of the above commands is in calculating in main code. The registers are exchanged after the calculation is done.

```

POP      push stack register onto stack
PSHA     push accumulator onto stack
TBA     do
PSHA     X onto stack
TBA     do
PSHA     Y onto stack
subroutine
push
Y register from stack
push
do
X register from stack
push
push accumulator from stack
push stack register from stack

```

## Daniel Lea brings you some more commands and examples of programming in assembler

Before in the example find the way the Y and X registers are put onto the stack since there are no direct commands available. Notice also that more important the order in which the values are removed from the stack and compare it with how they are put on.

Also remember you don't of course need to go through this but for being interesting because all the values X, A, Y and P don't exist after the subroutine so the values may be passed in main loop.

As well being used as above, the stack is also used in subroutines without your knowledge. When you call a routine where the main program number is 1 the point in the program the CPU is at is saved on the stack and pulled off again when a you return it jumps back to the correct place. As you must be careful especially in a subroutine. In pull off mainly the same number of bytes as you push on otherwise many things may come up the computer will soon likely crash. You have been warned!

## THE STACK POINTER

The stack pointer was mentioned earlier. Two commands can be used to check or load its position on page 1. These are **TRD** (Transfer X to Stack pointer) and **TRW** (Transfer Stack pointer to X). As with **PLA**, **POP**, **PSHA**, and **PLP** no address is used.

## INTERFACING WITH BASIC

**PLA** like some in interfacing with basic. The basic command which is used to run a number routine is **CALL ADDRESS** (Address) (Address) (Page 177)

The simplest format is **CALL ADDRESS** n g

**CALL ADDRESS**

which runs a program stored at **ADDRESS** on page **n**. When this is done basic first puts the current position it is in onto the stack, then jumps down so it can return back when the



# INFOCAB

## A VOCABULARY READER FOR INFOCOM

Chris Patterson discovers a way to cheat ... sorry ... make Infocom adventures just a little easier to get to grips with

INFOCAB is a word help program which will read files on Infocom adventure game disks all the words which can be used when playing the game. There will be about 700 or 1,000 words in each game. The words can be displayed on screen or printed out on an 80 column printer.

The user should enter the following:

```
The program has been tested on the following Infocom games.
Catherines, Baldur's Gate, Wizard's Lair, Bloodstone. All of
these are identified as "Version 2" when the library
encountered to succeed. If you have problems with this prog-
ram then check the version number. The program may not
work with other versions.
```

The maximum length of words to display on screen words will be truncated. e.g. EXAMINE appears as EXAMIN and LOOKLEFT as LOOKLE. Some very long words may be difficult to identify at first. e.g. SUPERSECRET appears as SUPERSE. Remember that, when playing a game, you can abbreviate long words so it helps to speed up typing. Some words that appear in the list cannot be used by the player in the game. These are the words that have a space in them e.g. I SAW IT, WIND ON. As far as I can tell, these names are used by the program only and are therefore not available to the user.

To print out on a 40 column printer (e.g. the TALK 2000) press C to change LEFT to line 40 or LEFT=40

I hope that this program will help players who are stuck in an Infocom game and who need the appropriate word or words to progress.

```
010 0 BEGIN
020 0 BEGIN W
030 0 BEGIN W Confusion Was a Half-Pa Measure
040 0 BEGIN W By the Sea, the Mountains
050 0 BEGIN W The ...
060 0 BEGIN W THE GREAT EAST SIDE FROM 1935
070 0 BEGIN
080 000 WITH SUBTITLE FILE LOCATED TO 00-0000
0900 000000000000000000000000000000000000
100 000 001-00000001-0001-0001
110 000 001-00000001-0001-0001
120 000 001-00000001-0001-0001
130 000 001-00000001-0001-0001
140 000 001-00000001-0001-0001
150 000 001-00000001-0001-0001
160 000 001-00000001-0001-0001
170 000 001-00000001-0001-0001
180 000 001-00000001-0001-0001
190 000 001-00000001-0001-0001
200 000 001-00000001-0001-0001
210 000 001-00000001-0001-0001
220 000 001-00000001-0001-0001
230 000 001-00000001-0001-0001
240 000 001-00000001-0001-0001
250 000 001-00000001-0001-0001
260 000 001-00000001-0001-0001
270 000 001-00000001-0001-0001
280 000 001-00000001-0001-0001
290 000 001-00000001-0001-0001
300 000 001-00000001-0001-0001
310 000 001-00000001-0001-0001
320 000 001-00000001-0001-0001
330 000 001-00000001-0001-0001
340 000 001-00000001-0001-0001
350 000 001-00000001-0001-0001
360 000 001-00000001-0001-0001
370 000 001-00000001-0001-0001
380 000 001-00000001-0001-0001
390 000 001-00000001-0001-0001
400 000 001-00000001-0001-0001
410 000 001-00000001-0001-0001
420 000 001-00000001-0001-0001
430 000 001-00000001-0001-0001
440 000 001-00000001-0001-0001
450 000 001-00000001-0001-0001
460 000 001-00000001-0001-0001
470 000 001-00000001-0001-0001
480 000 001-00000001-0001-0001
490 000 001-00000001-0001-0001
500 000 001-00000001-0001-0001
```

```
50 000 001-00000001-0001-0001
51 000 001-00000001-0001-0001
52 000 001-00000001-0001-0001
53 000 001-00000001-0001-0001
54 000 001-00000001-0001-0001
55 000 001-00000001-0001-0001
56 000 001-00000001-0001-0001
57 000 001-00000001-0001-0001
58 000 001-00000001-0001-0001
59 000 001-00000001-0001-0001
60 000 001-00000001-0001-0001
```



# DISK BONUS

## LAST FLIGHT of the PHOENIX



### A machine code program by John Young

Years of inimitable quality have left the Regis system as evocative. The classic player legends has been most celebrated. Southern blockades having caused an aerial shortage of our best fuel. Only heavily shielded freighters can carry the explosive fuel, but these cannot breach the blockade, so a military must be trained by another stage trainer team. Very few spacecraft are now left, and thus the doomsday sword Phoenix has been crafted for the cause. You must pilot the Phoenix to its first 100 flying minutes.

Use the joystick to steer the Phoenix, over the surface of Regisite, activating the tactical menu with the fire button. You should follow the tactical fuel by putting the computer over collection points (and covered). Fuel for your stay is collected by flying to your green diamonds, the current fuel level being shown by the green bar at the top of the screen.

The computer control team gives fuel supplies and run over the Phoenix launch and extension points. The buildings on Regisite are a further hazard. You must complete four runs to save the planet. Southern missiles make an appearance on the several of these levels. Good luck!

**Keyboard controls**  
OPTION - menu scroll  
SPACE BAR - pause scroll

Last Flight of The Phoenix is the Bonus on this issue also which also contains all of the other programs from this issue ready to run. Disk subscribers will have received their disk with the magazine but others can purchase the disk separately for just \$2.95. Send a cheque or postal order to P.O. BOX 334 225WICHAMPTON ST16 1QH and add to the issue \$5 disk or order by phone on 0783 213665 using your credit card.

## GRALIN International

### Clearance Items

IBM 3270 Processor	£110
IBM 3271 Display	£110
IBM 3275 Console	£110
IBM 3276 Printer	£110
IBM 3277 Storage	£110
IBM 3278 Keyboard	£110
IBM 3279 Mouse	£110
IBM 3280 Modem	£110
IBM 3281 Plotter	£110
IBM 3282 Card	£110
IBM 3283 Reader	£110
IBM 3284 Sorter	£110
IBM 3285 Terminal	£110
IBM 3286 Workstation	£110
IBM 3287 System	£110

### MSX & MSX2 Cartridges also available

MSX2 Cartridge	£15
MSX2 Cartridge	£15
MSX2 Cartridge	£15
MSX2 Cartridge	£15
MSX2 Cartridge	£15

### Other Products

IBM 3270 Processor	£110
IBM 3271 Display	£110
IBM 3275 Console	£110
IBM 3276 Printer	£110
IBM 3277 Storage	£110
IBM 3278 Keyboard	£110
IBM 3279 Mouse	£110
IBM 3280 Modem	£110
IBM 3281 Plotter	£110
IBM 3282 Card	£110
IBM 3283 Reader	£110
IBM 3284 Sorter	£110
IBM 3285 Terminal	£110
IBM 3286 Workstation	£110
IBM 3287 System	£110

### Cartridges

Acropolis	£15
Asteroids	£15
BattleShip	£15
Bombardier	£15
Boulder Dash	£15
Break Out	£15
Clock Cleaners	£15
Conquest	£15
Demolition	£15
Duke	£15
Egypt	£15
Flights	£15
Galaxy	£15
Galaxy Wars	£15
Galaxy Wars 2	£15
Galaxy Wars 3	£15
Galaxy Wars 4	£15
Galaxy Wars 5	£15
Galaxy Wars 6	£15
Galaxy Wars 7	£15
Galaxy Wars 8	£15
Galaxy Wars 9	£15
Galaxy Wars 10	£15
Galaxy Wars 11	£15
Galaxy Wars 12	£15
Galaxy Wars 13	£15
Galaxy Wars 14	£15
Galaxy Wars 15	£15
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Galaxy Wars 18	£15
Galaxy Wars 19	£15
Galaxy Wars 20	£15
Galaxy Wars 21	£15
Galaxy Wars 22	£15
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Galaxy Wars 24	£15
Galaxy Wars 25	£15
Galaxy Wars 26	£15
Galaxy Wars 27	£15
Galaxy Wars 28	£15
Galaxy Wars 29	£15
Galaxy Wars 30	£15

## NEW FROM PAGE 6

# ENIGMATIX!

A super new multi-screen arcade game with level editor

## HYPNOTIC LAND

The first new Atari ROM cartridge for years

## THE PAGE 6 TENTH ANNIVERSARY DEMO DISK

Celebrate with us in style!

Full details of these NEW products can be found elsewhere in this issue

# THE TIPSTER



**C**hristmas has come and gone and the turkey is nothing but a food memory. There do wait off some of those extra pounds that Christmas. Do a thing by indulging in the goodness that is the Tipster column. I can't say no to what is in this issue a column simply because I don't know what is going on for it anyway! I did promise that the recipe to Crossball by Laurel D would be in this issue but she is seriously sick I have not been able to complete it so it will appear next time if possible! Meanwhile, shut your eyes and enjoy the experience that is the Tipster!

## FETCH THE BONIO!

To start with this month Kirby and Son's Cookie of Easter bring you the solutions to their adventures available from the Page 4 PD Library.

From Disk #29: The Search covers the map and solution for **WEREWOLF**.

To complete the game find the clippers and get them. Find the wolfbane, cut it and eat it.

To get past the pond find the coins and get it and then eat it to be some bonus to the puzzle.

**Daughl Thomas Camp:** Wolfbane and clippers are placed randomly and therefore are impossible to map.

Also from Disk #29 is the solution to **Flurry**.

**S, F, D, A, L, S, S, L, S, E, T, R, Y, A, R, T, U, N, S, E, T, U, R, N**

The number shows to the solution to choose.

From Disk #31: Passwords and Directions covers the map and solution to **PEARLSHORE** (see next page). As always with 1, indicate the instructions as WALK, SWIM, etc. but in the correct order of direction. (Example: SWIM N, E, S, S, W, S).

E, E, TEG N W OQ, THOL, E S KOK  
TEG EXOM TEG S, HSLP N E N S, N U,  
U, E, U, W FORD, E D W D D S E, TEG,  
TEG HSLP W W N, M TEG W S ET,  
SMLE TEG SMLE N E S, S S W S,  
HSLP N E N E N U, U, E, U, MFPD N  
FORD, FORD, S D W D, D, S, W W, S

## Tips for the kingdom of the Public Domain

### FOURSOME

*None Commands: Moving One Good, Nothing and Death, Also All of them come from that Game of Witches, Right and what else is going*

**ONE SOME** **NINJA COMMANDO** can be made a hell of a lot easier by staying at the first house on level one. If you talk enough of the money then you can get the reverse machine gun to no time at all.

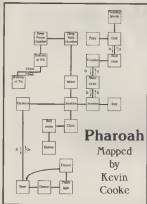
**TWO SOME** **MURDERING ONE DAMEL** has you getting **SECRET** and you get it hard appear on level one. So it is and you'll get two extra life points to begin with.

**THREE SOME** Press **START** to press **WICKEDFORD** then press **SECRET** to return to the title screen. Start the game and to not hold the time is frozen at 99 seconds.

**FOUR SOME** If you stay at the far left of the track in **DEATH RACE** you only need to delay a few cars. This allows you to attain a speed of 200 mph. Completing the game is over a double.

## WEREWOLF mapped by Kevin Cooke





## Pharaoh Mapped by Kevin Cooke

# Ultima IV

Here are the tips to the final part of Ultima IV, all courtesy of M.G. Brown of Phoenix.

After entering the Alps you can expect to encounter a question before being allowed to descend each level. Here are the answers to each of these questions:

- LEVEL 1 TRUTH-BLUE-NECESSITY
- LEVEL 2 LOVE-BELLOW-COMPASSION
- LEVEL 3 COURAGE-RED-VALOR
- LEVEL 4 TRUTH-LOVE-GREEN-JUSTICE
- LEVEL 5 LOVE-COURAGE-ORANGE-SACRIFICE
- LEVEL 6 COURAGE-TRUTH-PURPLE-MOROR (order does not matter)
- LEVEL 7 TRUTH-LOVE-COURAGE-WHITE-SPRITUALITY
- LEVEL 8 BLACK-HEMLOCK

Then there are 12 more questions:

- |                                    |                 |
|------------------------------------|-----------------|
| 1. HONESTY                         | 7. SPIRITUALITY |
| 2. COMMISSION                      | 8. ISMILITY     |
| 3. YAGGON                          | 9. TRUTH        |
| 4. RESOLVE                         | 10. LOVE        |
| 5. SACRIFICE                       | 11. COURAGE     |
| 6. MOROR (same spelling as before) | 12. INFINITY    |

## QUICK EY... QUICK EY... QUICK EY... QUICK EY

From **Green Rivers** of **Robberies** comes another advice for the defensive mode for a group of five and three! It says what it is! **Wait** and let mail for all of your favorite games.

If you would like to practice penalties with a hand in **WICK OFF** start a game in two player mode and then soon to the game starts (just called and then go to the penalty option).

When you are on your last life in **WARD TAKE!** and are about to be **ROB!** and then press **ENTER** and if you don't death you will survive and carry on from where you left.

When in **SCREAMING WINGS** you come to the things that look like books, really shoot at them and you will carry on until the end of the level!

In **SUPER BOWSER** shoot frequently otherwise the goals will save the goal.

Steven Nader of **Temple** says that to improve your chances of promotion in **LEAGUE CHALLENGE** then you should change your team names to anything alpha (very higher than A-Z) and then you will be put above any team or equal points and goal difference.

Just one tip for the letter from **Jon Donohue** of **Italy** and he says that if there is a dot moving up and down the edge of the screen at either end in **POWNY HOCKEY** then there is an enemy about!

Douglas Ryan of **Co. Albany** has a nice little suggestion for **LAS VEGAS CASINO**! I guess the **Las Vegas** Casino must go to the **Las Vegas** table and let up the dealer to win. Then occasionally make yourself lose. I don't know how but as the last card dealt goes 71 out of 13 gambler points!

## SUMMER GAMES

A **Team** of **Warriors** in **Wales** has won a way of having more **Bob Johnson** on the **UK**. Daily and other events to **SUPPLY GAMES**.

**I DOOM!** Well for people to circle **clockwise** (0-20)

**Cyber** must **level**! As your hands hit the **brake**, press and hold your buttons for a constant wheel, holding top right (18-7)

**Diving!** To get the really high scores from the **diver** you have to do a high skill level. So this by keeping every other in a tight rock and only open up on swimming the water. When you do open up you will go through with work for a higher skill rating. This can make perfect. A **Team** of **high** scores are:

FORWARD	300 00	SKILL	4 1
BACKWARD	340 70	SKILL	4 5
KEYSTONE	307 00	SKILL	4 8
DWARD	118 70	SKILL	4 1

## CALENDAR

For open **CALENDAR** just press and to switch up the time from **English** **English** of **Green**. If you hit a field 20 (just) they will be just have enough time to get out of the light sequence then when you have 10 (20) it will follow. It has player (just) both players can join on the same day. Making the room to be completed easily. All you have to do is look there to collect the same day (from the standard) space of every the same day. Instantly the call also be used for collecting level and points.



# DIGI-STUDIO

**I**f you stepped along to the Alternative Music Show last November you will almost certainly have heard the name Digi Studio. It is a big collection of many months effort on the part of Denis Gormaghy who is among the most vocal of UK supporters. What is a new study of deep research necessary for doing whatever it is that it wants to get up to. Denis provides a variety of support services to follow and his studio including a PRO edit suite library and a regular disk newsletter known as the News Disk which, as for a review coming soon to NALG, is a addition to a recently been appointed a UK correspondent for the new CD magazine Alan Clarke's.

Digi Studio is a suite of programs that enable you to create and play music using digitized voices. The software has been written using Turbo Pascal (version 3) is only compatible with IBM XL/XE machines) and is supplied on two double sided disks. The first contains the main program files and the second a wide variety of example files and voices. A large printed manual is included to explain the operation of the software requirements and also to give helpful advice on music creation. The manual is generally well written and laid out, apart from the unfortunate absence of a contents page and index.

When you boot up the program that you've initially presented with a menu of five options: the first choice Keyboard Player is perhaps the quickest way to sample Digi Studio's capabilities. The Keyboard Player lets you perform music: first using your Alt+ keys as if they belonged to a conventional keyboard. You can then digitized sounds from disk into three memory banks which can then be triggered by a single key press. By making use of the shorthand function you'll discover a kind of My Bee sounds ranging from Guitars and Trumpets to Laughter and Pigs! The keys are touch responsive meaning they go down so long as you hold them down. Though not as interrupted since the digitized samples are obviously too crinked in length. There is no recording facility of the sort you may have seen in some CD record trackers - perhaps that is planned for a future version?

Your Player can load up on the main menu, plays pre-recorded files like using any available sound samples. There are forty five ready constructed tunes on the disks but you can also compare your own using other compositions of the edit suite. Load and listening functions are available here and apply to both examples and files.

With the Sample Editor you can edit Digi Studio samples to improve on the existing sound or to actually create a new one



The editor allows you to copy a pair of the sample (this is defined as a set of 20 speaker positions) from one point to another and also reverse all or specific sections of it. You edit the sample by using a joystick to detect some the locations of its individual speaker positions. Creating an entire sample in this way would be too time consuming for practical purposes but the copy here does not for users to shape into a preferred version over real time. A graph option displays the current sample waveform in graphical mode

if format interesting though not particularly useful.

The Digi Studio Tune Composer provides stored voice bank code to play pre-recorded tune files stored on disk. When you can incorporate into your own music programs. All you do is enter the relevant details, including the file number where you want the tune reader located, and the Tune Composer will work creating the files being. Provided Digi Studio is not limited as the source you've provided to distribute the end product compatible with the digitized tone files.

The final menu option is also the most complex: LIPS, or Language for Instructing Digitized Speech, is a form of programming language especially devised to help you write tunes in the Digi Studio format. With LIPS you can control what music you tune. You using simple key words like duration to instruct which correspond to standard music notation. In order to get the most out of LIPS you will therefore need some idea of how to read music. One section of the manual explains the basic principles though it doesn't claim to be an authoritative tutorial so further study may be required. A simple text editor is provided for programming purposes though you can use any word processor. Once complete you must use the LIPS compiler to convert your code into a playable tone file.

It is obvious that the author has a genuine interest in the subject matter and has therefore put a great deal of effort into the functionality of the Digi Studio modules. Consider areas of programming could be improved: there are fairly long delays in places and even checking on keyboard inputs is not always handled in a particularly friendly way. But the good of the package is so unusual and different to quite impressive. You are unlikely to use Digi Studio for serious purposes but the great fun and educational tool.

Digi Studio is produced by Denis Gormaghy, 83 Whitson Avenue, Bally, Newcastle, EHM 9PL. The price is £12.00 and £12 should be added to cover the cost of delivery. Further details of Digi Studio and other products are available on request.

# RENOVATE IT!

I bought my first computer so I could play games. I was surprised to find as the years passed a subtle transformation took place. Not only did I begin taking my computer for granted for all purposes, I also found myself tinkering with programs, even though I had absolutely no previous programming experience. One day I realized something quite interesting: programming itself is a form of play. I was hooked.

Recently the back issues of *Computer magazine* became a valuable resource, and peering through these I happened on a favorite activity: Where my computer skills are continuously evolving, I always find something of interest.

Here are a sample of programs that grew out of my random browsing.

## CUSTOM CURSOR KIT

In the November 1984 issue of *AMTEC* there is a program called "Custom Title/Class Cursor" by Jerry White. When I first saw screen 2, it filled me with excitement. Now I could change a cursor in any stage or window I wanted. All I had to do was change the data numbers in a certain line. But? (Should there be what? The article didn't say, and I went away grumbling.)

Some time later I came across another little program that caught my interest: "Joystick Cursor" by Ted Beckwith appeared in the May 1988 issue of *AMTEC*. It transferred cursor control to a joystick.

By this time my computing skills had improved somewhat, so I began fiddling around with both programs, and finally managed to hitch them together. (See Listing 1.) Then I printed out

128	64	32	16	8	4	2	1	Totals
0	0	0	0	X	X	0	0	12
0	0	0	X	X	0	0	0	24
0	0	X	X	0	0	0	0	48
0	X	X	0	0	0	0	0	96
0	0	X	X	0	0	0	0	48
0	0	X	0	0	0	0	0	32
0	X	0	0	0	0	0	0	64
X	0	0	0	0	0	0	0	128

**Can't write your own programs from scratch? Well, there's just as much fun to be had by tinkering with other peoples, as Ed Hall has found out**

the ASCII of the mysterious data statements.

Jerry White's cursor is actually a player, who is designed on an 8 x 8 grid. The dimensions shown below reflect the 8x8 numbers (listed vertically) needed for a lightning bolt cursor. (Light numbers are required, bold numbers listed in value of 240. Bold 0 for a blank row.)

After fiddling this out, I delighted with an array of shape comparing. (Here's what I came up with.)

**FACECARD:** 00 00 116 124 120 120 80 20

**THE FIGHTER:** 0 66 70 63 127 63 33 66

**INSECT:** 60 60 24 104 103 98 86 108

**BELLOSER:** 0 64 64 100 0 120 104 104

**HAND:** 60 56 26 30 24 1 11 26 60

**COILED ARROW:** 68 64 62 42 42 174 204 240

**CROOKED ARROW:** 240 180 180 144 144 16 160 64

**INSERT SYMBOL:** 0 120 64 32 32 64 128 0

**MACINTOSH-STYLE J-BEAM:**

102 64 88 64 74 64 64 180

**HORIZONTAL LINE:** 0 240 0 240 0 240 0 240

**HOLLOW SQUARE:** 240 144 144 144 144 144 244 240

**UNDERLINE:** 0 0 0 0 0 0 240

Cursor shape data numbers go to line 650. Cursor blinking rate (BITE) is found in line 660. Enter a zero if you don't want the cursor to blink. For cursor colors (CLRCLR) value may

```

00 1 000
00 2 000
00 3 000
00 4 000
00 5 000
00 6 000
00 7 000
00 8 000
00 9 000
00 10 000
00 11 000
00 12 000
00 13 000
00 14 000
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00 101 000
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00 191 000
00 192 000
00 193 000
00 194 000
00 195 000
00 196 000
00 197 000
00 198 000
00 199 000
00 200 000

```

Listing 1 - A flashing cursor

value zero to 255 in five steps. Finally, in line 100, the cursor location is set to a number to-moved cursor speed.

Since the program takes a few moments to initialize, I added a final message in line 90 which gives out with a message. Now whenever I press up or down, I can see my joystick is connected, a cursor which shifts its speed. In fact, every key represents an joystick location, one which corresponds to a mouse. I feel like I'm driving a loaded car wheel.

There was a slight glitch in Jerry Holt's original program. It is that the player used to the cursor located into the top of the screen. Mr. Macromania provided the fix. Here's what:

## SOUND STICK 2

In another book, issue of ANTC I came across a program for setting sound status on with a joystick. It was a very short program, looks like below. But I started looking around and was amazed to discover it runs faster by looking off of 0's lines.

Okay, that was fine, but the program seems to crash to look at, and I didn't like the way the joystick was set up. So I added a loop to display the signal values, and reworked the way the joystick worked.

There was another problem though. Whenever the user sets a different value to work on, the values from the old value were transferred to the new value. I had a search that always went for stored in the program, but I wasn't sure how to do it. Then I searched across a similar joystick program in a book called The Master Start by Hal Mackenzie. Hal used

arrays to store joystick values, and the procedure was then simpler than I had hoped.

Take a look at Listing 2. Line 120 sets up three arrays, one each for pitch, yaw and roll. Each array contains four elements. They are identified or labeled in the following fashion.

```

P00 P10 P20 P30 P40 P50 P60 P70 P80 P90
Y00 Y10 Y20 Y30 Y40 Y50 Y60 Y70 Y80 Y90
R00 R10 R20 R30 R40 R50 R60 R70 R80 R90

```

Line 100 fills the arrays with zeros, but when it is set, they can hold any value assigned by the user to the joystick. For example, P00-P40 contain the pitch for rows 0 to 395, and Y00-Y10 means the values for yaw 0 to 11. This allows the program to store and retrieve values when it multiplies different wires. Lines 200-210 read the joystick, and store the values in the arrays. The variable A represents the current value (0-3).

Okay, we're all hooked, but what does these Capabilities 2 screens go to a little boring sometimes? How about adding some colour? We can't with the joystick statements. I guess by storing the display file. Unfortunately, this is way over my head, but it is not a problem. There is a nice little utility (part of ANTC) called Mapbox Screen Converter, which does the job for you. It programs the colour screen lines 100-140 and the data statements at the end of the program. You don't need to type these lines in, the program works fine without them (except for the COMMS 220-0, line 140, you need that), but that extra colour does look nice. Does it?

Yes, it also slows down the joystick a bit. Not a problem with the low end volume values, since their range is small, but the pitch values cover a much larger range (0-200) so in an afterthought, I slipped in a subprogram which allows the user

```

00 1 000 0-----
00 2 000 0 0000 0000 0 0
00 3 000 0 00 00 0000 00 00 00
00 4 000 0 0000 0000 0000 0000
00 5 000 0 0000 0000 0000 0000 0000 0000
00 6 000 0 0000 0000 0000 0000 0000 0000
00 7 000 0000 0000 0000 0000 0000
00 8 000 0000 0000 0000 0000 0000
00 9 000 0000 0000 0000 0000 0000
00 10 000 0000 0000 0000 0000 0000
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00 95 000 0000 0000 0000 0000 0000
00 96 000 0000 0000 0000 0000 0000
00 97 000 0000 0000 0000 0000 0000
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00 99 000 0000 0000 0000 0000 0000
01 000 000 0000 0000 0000 0000 0000 0000

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00 1 000 0-----
00 2 000 0 0000 0000 0 0
00 3 000 0 00 00 0000 00 00 00
00 4 000 0 0000 0000 0000 0000
00 5 000 0 0000 0000 0000 0000 0000 0000
00 6 000 0 0000 0000 0000 0000 0000 0000
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00 97 000 0000 0000 0000 0000 0000
00 98 000 0000 0000 0000 0000 0000
00 99 000 0000 0000 0000 0000 0000
01 000 000 0000 0000 0000 0000 0000 0000

```

Listing 2: Assembler-controlled sound generator

to change the increment. For example, set the pitch increment to 50 (i.e. 10 equal you can say eight) through the pitch increment. In fact, the effect is similar to creating a loop in a musical state machine. The loop around goes on (we used a constant) the same for both and volume.

You'll realize that I assigned 25 and 30 values (both for the pitch and volume) increments from lines 1000 and 2000. This was an arbitrary decision, and free to change them. In fact, if you wish, a fairly easy program (like me) I suggest you to experiment with the program. It's the best way to learn.

### GET SOME IDEAS

Don't lose out your old computer magazines. They are extremely valuable resources. You can only find some thing new every time you look through them. You'll also discover lots of opportunity for creativity by following the reviews of "Sound Effects". Is now totally different from the original, and it all coincided with one little improvement? There are lots more old programs out there just waiting for a fresh coat of paint.



# INVADERS

**T**his issue's XL/XE Challenge is developing first as of display routines & graphics for the **PORT AND I/O PLAYDATA** & **MEMORY** issue a game.

## MACHINE CODE ROUTINES

There are three main table routines used by the program that you may find useful for game programming.

**ROUTINE 1** A sprite mover handling all movement, move and if existing joystick control and collision detection.

**ROUTINE 2** A scrollie mover including optional trigger scrolling movement and rotation detection.

**ROUTINE 3** A sound effect routine - attaching up to four table driven sound effects to be played independently from everything else they do not slow the program down.

These are quite complicated to use - so I have written a routine game that explains the routines much better - and the WD to the final listing and here.

## HOW TO PLAY INVADERS

After the rather lengthy introduction has finished you will be presented with a title screen (here is what your joystick trigger does) After the screen has completed the main display will appear and your spaceship will emerge from its launch.

The idea is to ground the planet shield from invading alien forces by blasting them with your laser. Every time you hit them the shield a bit of it disappears allowing further alien forces to get through. The shield also weakens when the alien reach the surface. As alien forces continuously enter the top

*Steve Lakey's Font and Display Editor is now used to create a fully playable game which can be played even if you are not interested in the programming side of things*

of the display next will come killing it (if difficult) it may be slow. Should the shield become too unstable you will lose a life. Although you may be lucky - a spaceship will go down on its explosion will kill you. You start the game with one life and get an extra life every 30000 points. You lose points when the shield weakens and should the points drop below a 30000 point threshold - you will lose that extra life. If you lose a life the level has to be replayed.

There are five types of alien - each with its own movement pattern. A new alien appears on each of the first five levels.

## SCORING

500 LEVEL	Killing 40 Aliens
1000 LEVEL	An Alien Killing The Shield Or Destroying The Surface
100 Points	For Every Shield Section Lost Inside At The End Of Each Level
5000 Points	Missing The Surface

## TECHNIQUES USED

To illustrate the following a selection of different characters were plotted to the screen, whilst in open and close the program data was stored directly into the character set. Study the listing to see exactly how it was done.

In the final part of this article to be printed next issue, there will be one more listing which will explain the machine code routines mentioned above. There are total 300000000 and open air in the period think I intend making a section very smooth, if you have ever wanted to program your own commercial quality games look out for it!

## THE LISTING

Invaders is another mammoth listing that would take up five pages in the magazine so we have decided to include the program only on this issue's disk where you will find it ready to run. We regret that a complete version will not be available but we are quite happy to send a photocopy of the full listing, with TTYD codes, for anyone to type in if they wish. Send a large stamped addressed envelope to PAGE 3, P.O. Box 34, Stamford, CT 06 106 and ask for the INVADERS listing.

# WHAT 'AVE WE 'ERE?

**Y**ou may think, no more, people do this? It will be a relatively old produced computer you see, alive and well and say help. Misuse? Just take a look, at the people involved in this magazine from all around the world. Lots of the British, German, American, US issues and magazine shops around the world for our readers. You may think that I only look around the world because I write from FRANCE where you never heard about any of his countries. Right?

Here in France, the Atari appeared in the beginning of the 80s and was followed by further models of the XL/500 line several years later. There were also many magazines and publications supporting the Atari 5 bit machines in my country. First there was L'ATARIEN which began publication in October 1980 mainly with VCS 5000 dedicated articles for the first three issues and finished in February 1986 after 10 issues. This was a magazine edited by STANIS PIGNON and was of good quality with articles, programs and reviews of games and outside. This short was 'FORGOT' from July 1986 to August 1987 with full coloured pages all about the Atari 5 bit machines, offering programs, an address and hardware. These magazines were very well produced with good programs and original articles, but were difficult to find even here in France. Understudies: their publication stopped due to lack of support and resources. There was also was a much bigger publication called 'TUT' (about the name as the English Computer and Video Game mag which followed the 5 bit Atari 1986). This mag still lives but with articles on ST, PC and Amiga.

However, there is here a group of people not leaving the support for the XL/500 issues of France via the French internet computer groups called MIBITEL who think that the Atari is still the best computer. To convince people that they are wrong (I'm not the best computer I have just one question: What other computer has more than 4,000 programs including big games like PAC MAN, DREDDY KING, GALAXIAN, VAN CLANIC, MISSILE COMMAND, PEARL HARBOR, PIRATES, JOLLY CRYSTALINE and so on plus still more for the more serious users all with great sound and 256 colours, a 512 pin cartridge (game disks for each tablet) light pencil colour key interface and hardware enhancement?

## HARD TO FIND SOFTWARE, RUMOURS AND CONVERSIONS

I must say that I have a rather good reputation in getting on the Atari 5 bit computers (with 50 pages of periodic magazine) and as I have listed hundreds of programs for our 5 bit machines but I am always searching for more big titles that I have only heard about.

## The Atari Classic is alive and well in France where Patrice Robert has discovered alternative software titles

Have you ever seen a big fat or other machines wishing it could be available on the XL/500? I have, so every piece probably has in the computer world. Have you ever been told about great titles on the Atari 5 bit that you never saw? I also have and occasionally I have read about them. To help you get more enjoyment and ease the frustration in searching for the obscure titles, I will share my own experiences on the long, hard road of finding software for the XL/500.

First, a game I have always been looking for is **PERICLES** but it didn't appear for our computer or internet. It did on the VCS 5000 and the 5000 AFANS could have done a XL-version if you are waiting for a similar game, here a look at **EDMON AFFAIR** from Image or **SATAN'S HOLLOW** from CIB. Another great hopeless search is about **GALAXIA** which came 1 year earlier on the 5 bit line. When it does on the 7808 video game system it suggest that you look out for an article on the 7808 and be game I was working on. The second adaptation of this game would be **GALAXIAN A/E** or **GALACTIC CHASE** from respectively Atari, Broderbund and PIRATE, but you will have a nice surprise if you have been a look at **SAUNDERS** (1982 from France which is not just as fast as A/E), very well enhanced and coded.

On the car racing game side I have always appreciated **EDMON** on the VCS 5000 which shows I have the same feeling of driving as **ROAD RACE** (both from the Italian although this last one is a very good one for the XL). In another type of action I really enjoyed **TAR'S REVENGE** and **ROCKY'S APPRENTICE** also on the VCS (the way the two started with my wife has a nice original sound, as has **ACTION FORCE** from Parker, but I never saw an adaptation of these games on the 5 bit).

On the opposite side, there were great titles which were supposed to come on the Atari classic, as it is now called but which seems to have never been released. I speak of titles such as **LITTLE COMPUTER PEOPLE** from Activision, **REY-FIX** from Electronic Arts, **SOMMER GAMES 2** and **WIN-THE CLAMS** from Sega. I saw an advertisement in 1986 about LCP and RCF in TET magazine (mentioned above) being sold by a French shop called **SELECTRON** at a really high price (250 fr. 430) but never saw them. As I know about LCP I

that I have a Crisis version of the game but without any computer people to like it. I also saw a picture of Winter games meeting with a NEWS of the ST London team show retained in the FORK magazine of that year. This suggests I found all these games or some them running on the ST.

There is also those big fat cartridges that were supposed to be produced by our machine. I own a COMMANDO (is that title prior to the price but that I got at the ST Frewk, also those on which COMMANDO was also retained to under the IN 6004 software) **MEAN IN TELEPHONE MIND MAZE** and **TOWER TOTTLES** about which I saw pictures and comments on an AMERICAN review called "THE ADAMAN" in 1989 (VZ 1 no 2) that never played with. These including 8004 MAZE should have a picture as **WAT OUT** from Series which was produced in 1982 and had a similar scenario.

At this point of the discussion, I have been surprised by a typical kind of use of the word, which is I had some titles like **ALICE BRIGADE FOLE POSITION** or **COMMANDO** **ALICE WARRIORS** and **WINDS GOLF** are available for the 7000 but not the XL/2C; why the video game system has very similar graphic modes and sound capabilities to the XL/2C then? There is no reason why Atari could not have produced some games for the Atari Classic.

## DON'T GIVE UP ... MOST OF WHAT YOU WANT REALLY DOES EXIST !!!

Because of me, I found these 40 copies of the ST / 2C games to mean they couldn't have big hits, but this didn't mean they didn't and were built, however. I review of the software having determined that they probably is some more software on the XL with another name. The software discs that were not available to a later computer. I owned **MAJBLE MASTERS** on the XL and found it under the name of **FISHER** from American software. **TARRAN** (the music on the XL/2C from Culture and has something comparing to the Culture knowledge of 1984) I also got **COMMODORE** in ST & C Commodore in the US when a good title but it is a waste of software.

If the software have been some thing for some 40 hits adapted from the ST to the XL, one would find **DOODLE BUN** is the thing game where was some available on the XL, which included an **EDGE RACER** on the ST, but got from Synapse in 1987. **CARNIVAL** the big music hit from Culture is also available for Atari XL under the name of **SHOOTING ARCADE** from Diamond in 1982, which the name that big about big words is well the ending level being going to and again **AMERICAN** from Parker has also been adapted to the XL by Diamond in 1982 under the **TIME SHOOTER** title. Some those up some large amount of titles to be shown with colour while, including reviews. The best example of this kind of adaptation is from the various game systems in **STAMPED** from American which is called **BOULDER UP** on a computer with the similar running format of different speeds and the ending with life loss.

Patrice Robert  
with  
The French Connection

## MISINFORMATION CAUSES PROBLEMS!

On the opposite side, there is a common de-top situation with the name of some games. For example, when I got the game called **TIME BASKET** I thought it was the title called one usually developed for the ST, but then I got a small 1.5m on the title type game which is an adaptation of a very good adaptation of a typical example of information in this case is the fact of distribution of it in reality. Some people also even know that **TASKHARD SUNDAY**, **HERBERT STABLER**, **SPACE SHOOTER** and **COMMODORE** from Atari were used title on the situation and all at top quality. We have to add that these titles, have a lot of other from some software houses on the spot. For example, a lot of people would have enjoyed playing a two player racing game like **HIGHWAY DUEL**, **Dynamix Marketing GOLF**, **1004** which doesn't fit across in two parts and others such as in the controlled adaptation by through the book where you must follow the road, because would other cars and (races) the title titles along the last central scrolling. If only it had been well distributed it got the XL version of this game from Commodore.

It has been the most difficult way with getting **SCHEISSER STEIN** (1988) from Am/Advanced. This one, which offers a large scrolling playfield in a mode with graphic objects and significant complex sound effects. This is a really top quality game for the XL/2C. I was not surprised by the quality level of the games produced by the German PC Soft house. And **SPY-LENDER!** Did you play this game? If you already know, you haven't forgotten the beautiful screen type game from League League entered in 1983 with the master developer using during the screen also this large world dimensional scrolling playfield filled with dozens of different objects. And did you ever heard of **LEON** (1988) from Wondershare where you have a moving ball trying to collect letters and shooting other enemy balls?

## PAC-MAN AS AN EXAMPLE OF MISINFORMATION

When it comes to think you know, the 1 of 1000 games (I mean the real ones, not adaptations made by other but based from Atari) and would spend not only on the classic of **PAC MAN** but also of **MS PAC-MAN**, **PAC-MAN JUNIOR** and **ROVER PAC MAN**. However, there have been two versions of the classic **PAC MAN** from Atari. The first one appeared as a cartridge allowing the player to select the starting level and the number of players. Always in this version, the first one month movement is very fast and the second mode where the player can a single ball is also designed. At higher levels, level 20 to expect **PER** from to show a level as ghosts. The second version appeared on disk but the game has a better presentation, with the introduction of the four ghosts and 1000 status but being important in the information screen between levels as in MS PAC MAN. Two versions however, doesn't give the possibility to select the starting level of the game, at high levels the major pills will have power more 1 or 4 levels. These differences are due to the necessary size of the cartridge to make.

It is the same problem in the **MONSTERMAN'S** **RE-**

continued →

# WHAT 'AVE WE 'ERE?

continued ...

**VENGE** or **BACKON** which appears at most 100s or 200s version (and even in 100s for **VENGE**). Speaking about **SECURITY** makes me wonder if originally this was not a (the) second instalment of this game or XL, which was supposed to be **BARRABAS BODY** or what should have been the next instalment of B.O.'s **QUEST** (know, only the name of **B.O. CHOC-REVERSE** is cover was either of them).

## ADVENTURE'S ATTRACTION

On the adventure (and I wish I had more) are including (and/or you appear rate less) the interest, and I was not attracted by those kind of games until I played with **BASES OF THE ELIX** and **HERBERT'S STAIR** from Interlevel or with **MEMORANDUM** from Activision. All three include graphic animation, and several titles which give interesting, to those type of games. With the others were would be, appears when completing a game like **BOOK** with **THE NEWBORN** **STORY** from Activision. Each one, most interest, but I didn't know when beginning to try it, but I had some copies of advance game copies on the XL. It is why I would like to have these advance guidelines, who distributed on the XL computers on the Atari II but just by appearance, or lack of information about software.

I have to say of one thing about our computer which is that when I was starting to specially software, I have to ask and collect all the information before giving it, but I have had a lot of good surprises!

## MAKE A SOFTWARE WISH !

There is a piece of software I would like to see on the XL/XX: which I could see on a Macintosh. It is a software agency's equivalent with a hand on the screen who moves his mouth and eyes at every word pronounced. I would imagine it is a combination of **ROVVE MANON** and **S.A.M. Software Automation Module**.

Will you ever think I was easy to guide such a game that I would like to see on my computer screen, but after having ordered and seen the **640** **DRAG** from **FACE** I have thought that anything (almost) would be possible! Progression, it is up to your maker on a speaking and moving head, even if it is done. Give it just a try as I did.

Will I hope that you have enjoyed reading of my experiences in discovering the almost unknown world of software for our time. Perhaps one day I may read about your experience!

I sincerely is convinced to it, project such as the talking head or head to speak, to the French Atari II or better, you can contact me at **WEP** to:

**Philippe ROBERT** (Student, being my family name), 7 Rue Marcel Proust, 92800 Nanterre-Malmaison, FRANCE.

# NUMCON

*A no frills number  
conversion utility by Paul  
Saunders that almost  
everyone will find a use for*

**M**ore than a year ago when I was at school, we used to have to convert a list of numbers from different bases, and the simple arithmetic with them. After a while I wrote a program to do the conversion leaving just the arithmetic to cope with. **NUMCON** will convert it and from decimal to any base up to 65 and I have expanded it to cope with binary conversion. It will now also do area, weight, volume and Imperial and Continental measuring. I hope it would be useful to you.

The program is written entirely in Basic and runs on any little graphics screen throughout. It is on cassette and is simple to use.

## CONVERSIONS INCLUDED

### NUMBERS

DECIMAL TO BINARY  
BINARY TO DECIMAL  
BASE (2-16) TO DECIMAL  
DECIMAL TO BASE (2-16)

### TEMPERATURE

CELSIUS TO FAHRENHEIT  
FAHRENHEIT TO CELSIUS  
CELSIUS TO KELVIN  
KELVIN TO CELSIUS

### VOLUME

LITRE TO GALLON  
GALLON TO LITRE  
PINT TO MILLILITRE  
MILLILITRE TO PINT

### WEIGHT

TON TO TONNE  
TONNE TO TON  
POUND TO KILOGRAM  
KILOGRAM TO POUND  
OUNCE TO GRAM  
GRAM TO OUNCE  
GRAM TO POUND  
POUND TO GRAM

### LENGTH

MILE TO KILOMETRE  
KILOMETRE TO MILE  
YARD TO METRE  
METRE TO YARD  
MILLIMETRE TO INCH  
INCH TO MILLIMETRE







# PROGRAM EDITING SCREEN

**T**he reason I think it is a fairly unique utility is for writing programs. The main window is a standard type size font editor. It has background colour, cursor, and screen and after the style of looking, it is the best I find that is very easy to use back of the house.

In recent days, I have written Program Editing Screen to enhance the Atari computers for my own personal files and friends. I find that this is a very useful utility and I think that it could also be helpful to other programmers. The original program is an assembler, but I have designed it to make a way that it can be stored in our individual boxes through a BASIC customer program.

## PROGRAM EDITING SCREEN CUSTOMISER

When you run the PESG program a file buffer to set up which contains the values used for the boot file. The screen then displays a list of any custom default values in column format.

DESCRIPTION	DEFAULT	DEFAULT
Default	ASCII of device name	80
Text spacing	Screen range	
Left	0-28	1
Right	0-28	35
Screen line	Colour range	
Text background	0-255	0
Screen colour	0-255	148
Border colour	0-255	148
Key repeat	0 or 1	1
Keyboard click	0 or 1	1
Text screen	Colour range	
Text background	0-255	0
Screen colour	0-255	0
Reserved area	Must be 0-FFFF	
Low light		0
High light		32
Colour speed	Range 0-255	18

If you accept these values, you can go straight ahead and create the custom file. If you want to change one, move the indicator on the left hand side of the screen using the up/down cursor keys until it is pointing at the value that you want to alter. Then type the new value and press the RETURN key. If this value is acceptable, i.e. <0-FFFF, the screen byte in the file buffer is replaced. If the value is not acceptable, it is <0000 the returned byte in the file buffer is unchanged and redisplayed.

*David Sargeant provides a programming screen which you can customise to suit your own preferences*

The boot file is loaded before addresses 01000 and 01100, so the reserved area must be 01100 to prevent this code from BASIC. I have set the reserved area to 0000 but you could set it higher to reserve status space.

## THE PES BOOT FILE

To create the **ALTERED PES** file just your boot disk to the disk drive and press the Escape key. The code stored in the buffer is then written to the boot file. Remember that an existing **ALTERED PES** file will be overwritten, so back it up first if you do not want to lose it.

Now, when you boot your system using this boot disk, you can access PES whenever you want to write, edit or just view a program.

## ACCESSING PES

PES is accessed by typing in direct mode: **010 PEFUN 0110**, where

```
010 any channel number 0-9
011 any speed, usually 0-9
PEFUN any device
```

To return to the normal Atari default screen type **11000** Press.

For example:

```
010 PEFUN 010 011000 C:000000
```

Note that the system will probably be in a state of channel 0 when DISK.







# DISKBASE 1.0

**Charles A Cole checks out a public domain database that proves more than a match for commercial offerings**

**T**hroughout the life of the Atari 8-bit computer line, many individuals and companies have released data base programs. I can't have time to try different ones that have been written over the years, and I know there must be hundreds more that I don't know. Most of these programs are designed to use specific tasks, such as maintaining a file directory, names and addresses file, telephone directory, or name-mail program, or they have a very limited storage capacity of less than 500 records. In the realm of file-base databases which allow the user to customize the data structure to their own needs, three stand out as the most useful: *Spillies* from Strategic Software released in 1983; *Data Perfect* from LJK Enterprises, released in 1984; and *Diskbase 1.0* by Todd Shinko of Dr. Clair Systems, Michigan, released in 1986.

What's that? You never heard of *Diskbase*? Probably because it is public domain, and was never sold in stores. *Spillies* and *Data Perfect* are still available from a few twilight sources in the States but were out-of-reach when first released and are getting harder and harder to obtain. *Diskbase* is Public Domain.

## PRIOR DATABASE EXPERIENCES

In my particular case, it began with *Data Perfect* which, even today, is one of the most powerful database programs ever written for the Atari 8-bit line. It is an over-engineered, in fact that I get feedback your way through the instruction manual is a major project in itself! *Data Perfect* was way ahead of its time, offering online searches, all column displays, and support of double density drives when most of us were still plugging along with 400K and 500K and 8 1/2 single density disk drives. As my disk library grew and I needed greater and greater storage capacity, I switched to *Spillies*—after acquiring an Atari 1000K and XP561 drive, because it used all of the 1000K + 800K for the index storage, and it might like could be split across up to 16 disks.

Both of these programs suffer from the major problem, though they were I write to a double density drive! Then along came

*Diskbase*, a public domain release from Todd Shinko written in the Atanas language for speed but, not requiring the double density in use. *Diskbase*'s greatest asset, for my particular use, is the ability to run it from a hard drive with the *SPINLOCK* 2.0 cartridge because it is not a copy protected disk as are *Data Perfect* and *Spillies*, and the ability to store your data files on a hard drive or a double density double density disk. Another strong point that *Diskbase* has going for it is the ability to use a word processor to key in your data, and then let the *Diskbase* program read your word processor file into its database structure.

## MEMORY REQUIREMENTS

Despite the name, *Diskbase* is not another one of those Disk Index Only databases, but is a true free data database that can be used for a variety of purposes similar to the MS-DOS word's office programs. According to the documentation provided by Mr. Shinko, *Diskbase* is designed to run on any Atari 8-bit computer with at least 40K memory, and with any DOS with a MINIMUM of 100000 or less. Atari DOS 3.0 and 3.5, DOS XL and SuperDOS are specifically recommended. I have it tested it with MyDOS 4.00 and it may not be compatible with it. MyDOS's documentation includes a MINIMUM of 50000 which may not be sufficient for *Diskbase*.

## CAPACITY

When really into *Diskbase* apart from any other database in its storage capacity—up to 65,536 records! *Diskbase* gains its large storage capacity by virtue of the fact that only the index and the pointer bytes are loaded into memory to perform data sorts. For those who may need a better database that what they are now using, let a run through *Diskbase*'s menu first and then by time.

## FUNCTIONS

All of *Diskbase*'s functions can be selected from a main menu consisting of eight items—plus two that do not show on the screen. Unlabeled items are the [F] key to toggle write-verify on and off and the [F] key to see how much free memory is left. Free memory only indicates how many records can be written, however, and has nothing to do with actual storage capacity.

DOS FUNCTION000 from the main menu allows all the usual disk management procedures such as formatting etc. This first

are different with Diskbase. However, are Copy Records and Write Structure.

Diskbase uses absolute sector/byte pointers, which means that you should not use your DOS copy functions to duplicate a data disk because it will hopefully scramble your file. The Diskbase Copy Records module will copy your original recordings, but you do need two drives or a ramdisk because disk switching is not supported. The good news is that users of SpartaDOS can copy data files with the DOS Copy function with no problems, since it copies whole sectors by block sizes.

The Write Structure choice of Diskbase allows you to copy a database a field across lengths etc. to a new disk without copying the entire data, and is used to begin a new file with the same structure as an old one. This is particularly handy when you suddenly run out of disk space and need to extend a file onto another disk.

OPEN FILE is used to create a new file or to open an existing file for changes or additions. You will be prompted for a file name and if it is not found, Diskbase assumes that you want to create it and enables you to use the New File option. Diskbase will ask for the number of fields (data elements) you want to create and the field names/length. The next screen is where you design your new file's data entry outline. If your data file is to have more fields than you fit on one screen, the screen will scroll vertically to allow additional entries. If a particular field is defined as being longer than 60 characters, the screen will scroll horizontally to allow the entry of data. You do need to plan ahead for hard copy printers however, and not use more than 80-column data per individual record if you think you will want to print horizontal hard copy.

## USING DISKBASE

My primary usage of Diskbase is to maintain my disk file. I created a file structure that allows 4 characters for a disk number, 14 characters for the program title, 44 for a file description, 7 for source ID, 48 for an date of release or output too, and 4 for the type of DOS used. With an 80 column printer, that still leaves 26 spaces to divide between the columns during printing. Syntax and Data Printer allow flexible formatting at print-out but Diskbase automatically justifies the printed output. The left and right margins plus a few digit file number number to the left column, and three digits for the remaining space evenly to separate the columns. Once you have your data entry screen designed and let Example your file structure will be written to disk and you will be returned to the main screen.

ALTER RECORDS allows you to change the name of previously created data fields within an existing file, but you cannot change their length.

CHANGE RECORDS is where you go to add records to a data file or to make changes to an entry. When you enter the selection, the first file in the database will be displayed along with the record record number and the total number of records. A one line menu across the bottom of the screen allows you to jump to a particular record number or to the end of the file, to the end or previous record, back to the first record or to search for a particular string of characters in any of the fields. To add records, you must first go to the end of the file. Previously entered data can be changed as desired throughout the entire file, and a search option is available to help you locate data that needs to be changed. Records can be deleted from the file while in this mode. Deleted records cannot be undelisted so the program asks you if you are really sure before it deletes the record, and gives you an opportunity to change your mind.

READ RECORDS is one of Diskbase's most useful features.

Although data entry from within Diskbase itself is fast and easy to prefer to use Starbase Plus or Turbo, and then let Diskbase READ the last file into the new structure. This allows me to keep the original last file as a backup to save anything happens in my Diskbase file.

PRINT RECORDS allows you to output data in a printer, disk file or the screen in three different formats. You can print all or just certain fields of all or just certain records. If you choose printer output, you can show the option of entering a printer record string to set up print jobs, though not type size depending on your printer's capabilities.

I have personally encountered what seems to be a bug in this routine: I have an Epson LM 680 programmable printer which can leave the page length set through software commands but for some reason it refuses to accept the command when it is read from within the Diskbase printer control string.

I like to have my printers with a blank between pages, but Diskbase's default is to print the entire file without any page breaks at all. If you do I have your paper set exactly right, I will print in the middle of the perforation. Single sheet printing is not supported.

The three formats offered for both printer and disk file output are: Regular Format, to print the records as they appear on the screen; Horizontal, to print one record per line in columns across the page; and Data Only, which is the opposite of Read Records. The Data Only option prints an ASCII text file to disk that can be opened with any word processor and then read back into a Diskbase file. Diskbase also gives you the option of printing only certain fields or all of them and complex conditional expressions can be entered to filter out unwanted data.

PRINT allows data to be sorted on any field in either ascending (A-Z) or descending (Z-A) order. Diskbase uses three bytes of field record in the file, and the sort buffer is located in random RW, which means that Diskbase can sort a file of approximately 25,000 records. There should never be a case on the disk, but merely enable the write and file pointers. Come on the sorting of a large database on a floppy drive can require a considerable period of time. The use of a RAMdisk in perform time is highly desirable, provided the file to be sorted can fit within it.

I have no disk buffer on a hard drive. Instead, data fits into two separate files of 256K and 256K records each (A1) and (A2) and even at hard drive read/write speeds, sorting one of these files takes over 30 minutes. On floppies, this would probably require a couple of hours, and your drive would be constantly writing during that long sort operation! When I was searching my file on a floppy, this caused my SPBIO to overheat. Fortunately, I found to be very helpful to the long run to the following: After you sort a file, use the Print to Disk option to write the data to disk. It will be written in alphabetical (sorted) order. Delete your old data file, and read the data back into Diskbase from the copy you printed to disk. Now the file will be on your main disk in sorted order, and subsequent sorts will go much faster. (Predicts will be faster too, because the disk drive can find the files much quicker if they appear in sorted order. This also means you can turn on the mechanical parts of your drive a read/write head.)

## LEAVING DISKBASE

Any time you are ready to leave a file, cancel a command, or move to another operation, pressing Escape/Enter ends the file and returns you to the main screen. Pressing the only real completed action Diskbase, although even this is minor. There is an EXIT command to return to DOS from the main menu. Even if you select the DOS FUNCTIONS option from the program is not possible. The only way out is to turn off your power switch and reboot. Next, considering the other features Diskbase offers, I may live with that!



# TUTORIAL TIME

## STRINGS TO PRINT

This article was inspired by an enquiry from a reader who was having trouble with a program which he tried to print when he was doing. The program was quite complex and could take to format data on the printed page. This did not make matters any more straightforward. After quite a few days I was able to isolate the problem to that text so it did not have an exact printer. And it was clear that the input program was using EBCDIC compatible control codes for tabs and back spacing. In general I would suggest that it is wrong to use codes that are specific to a printer if this can be avoided although the EBCDIC standard is widely accepted amongst dot matrix printers there are some that do not comply and the newer Laser and Ink jet printers often use a very different set of codes - so do some older types like daisy wheel printers.

I have used strings for two purposes in the program that follow: first to construct a line of text that can be sent to the screen or a printer maintaining new lines and tabs to take numbers and lines, then so that they are printed to the correct position on the line. There are two program listings. The first is a very basic program which concentrates on showing you how the strings are manipulated, but it is a "play" program which can readily be modified. It is not flexible on the inputs. I will show the data program in detail and leave you to work out what I have done to create good and correct, it gets the second, more robust program.

### PROGRAM DETAILS

First let me explain that I have chosen to present a line that contains the following three components in chronological sequence:

Date	Month	Amount (amount)
------	-------	-----------------

First in **Line 20** we dimension the variables that will be used in the program.

**Line 30** sets a trick of string handling to make certain that the string LENGTH is filled with blanks. This technique can be used to fill any string with any character. What you have to do is to replace the first null byte character of the string equal to the character you want to fill it with and then use a statement

in the form **STRING=STRING** - this fills the whole string with the character.

**Line 40** shows the input of the date. This is not always a bit difficult as people use widely different conventions such as 18 January 1988 or 01 01 88. 05/01/88. Jan 18 1988 and in America the month comes first 01 15 94. To accommodate all these variations would take a sizeable program so I have chosen the first 01 01 88 and by adding for each part of the date separately hope that clear program will encourage the user to get the input right.

**Line 60** prompts for the day input which actually occurs to **line 80**. The main value at the end of **line 60** ensures that the ? prompt for the INPUT is at the end of the prompt rather than on the next line.

**Lines 70 and 80** have the input into part of the string LENGTH. This is the string which will hold the whole line of text for printing. The INPUT function takes a number and forms it into a string. There is a problem however even if you type in 07 X will be equal to 7 and **STRING** will be ? To ensure that all characters are up to size has to be worked on the first where the character is 0 or less has to be done on **line 70** but not where it is 10 or more like 09. Also if you type in 7 034 or some such for X, **STRING** will be ? 034 which would apply to clear format. See how to avoid this on the next program.

**Lines 90 to 120** do the same for the month as 00 to 99 did for the day and have 1 00 to 1 99 do the same for the year.

**Lines 170 to 200** prompt for a text string TEXT and makes it fit the correct position in **LINE**. This shows how easy it is to extend one of my, in another.

In **Lines 220 and 230** the program gets a number input and then **line 230** branches by the calculation of **line 200** I will come back to this subtraction in a moment.

**Line 240** introduces the string generated by the subtraction into the main string LENGTH in a position at the end which ensures the decimal points line up then **line 260** prints the whole string LENGTH on the screen.

The subtraction starting at **line 200** is important as it demonstrates a technique for setting up numbers in position in a string so that they are decimal aligned. The program works for any number less than 10 000 and handles two decimal places.

This is easier to be an amount of money as most countries use up to two decimal places so in pounds that price or dollars and cents. This will work all numbers two decimal values such as 0.01, 1.23, 98.32 or 9999.99 and all must be handled correctly. This is how it is done.

In **line 200** the amount input X is multiplied by 100. This puts the "point" in front of the decimal point.

Then in **line 220** we add 0.5 to a penny and take the integer side of the result. The effect of this is to round off any decimal part of a penny to the nearest penny. The next few lines rounds up.

In **line 230** a string 00.00 is created from the number X and the variable L is set equal to the length of this string.

**Line 250** is where the last two digits are taken into a new string P000. This is the penny value due by using string in this way we ensure that P000 will be 00 if the input X is

```

100 GOTO 200
101 PRINT "PROGRAM: DETERMINING THE AREA OF A TRIANGLE"
102 INPUT "ENTER THE LENGTH OF THE BASE (IN FEET): "; B
103 INPUT "ENTER THE HEIGHT OF THE TRIANGLE (IN FEET): "; H
104 A = .5 * B * H
105 PRINT "THE AREA OF THE TRIANGLE IS: "; A
106 GOTO 200
200 PRINT "END OF PROGRAM"
201 GOTO 100

```

```

100 GOTO 200
101 PRINT "PROGRAM: DETERMINING THE AREA OF A TRIANGLE"
102 INPUT "ENTER THE LENGTH OF THE BASE (IN FEET): "; B
103 INPUT "ENTER THE HEIGHT OF THE TRIANGLE (IN FEET): "; H
104 A = .5 * B * H
105 PRINT "THE AREA OF THE TRIANGLE IS: "; A
106 GOTO 200
200 PRINT "END OF PROGRAM"
201 GOTO 100

```

a whole number (percent). All the positions to the right of a decimal point in NUMB and PRINTB are filled with zeroes after the decimal point. This is done to save space.

## THE SECOND PROGRAM

The second listing is an amplified version of the first. It allows selection of a 30 character screen line on a 28 character line on a printer and it adds lines to put in a degree of error checking. The error checking will generally stop the program from continuing, but it is not excessive. You can, if you wish, enter a date of 21, 02, 1981.

## FINALLY

It should be possible for you to see and adjust any variable lines of data and numbers in a line to suit your own purposes using the techniques shown above. One possible method of using the techniques could be to read data from data statements and format them for output on a printer from on a printer. This would be more practical than taking such data from the keyboard as I have done for demonstration purposes.

purpose.

One tip for any of you who have a printer which supports proportionally spaced fonts. When laying out material in a tabular format where one or more pitch feet such as Courier is proportional fonts the widths of different items vary and this will disrupt the alignment of your columns.

Start these layouts always wider than necessary when format should last it is capable of all your string manipulation requirements and use the advantage of handling very long strings (lines) up to the size of the space (memory in your computer).

# ENIGMATIX

**A**nother brain-buster game? Enigmatix. From LucasArts's Bigfish Productions, this just-bests-selling PC game has just been released by Page 4 Publishing. Page 4 are renowned for being more than a little kooky over the standard of products they adopt, so the wonder of this review is not going to come as much of a surprise.

Enigmatix is a multi-level sliding-puzzle game with a certain element of originality. On each level the pieces of a jigsaw have to be moved, leaving behind a horizontal point which is marked by a large scrollie. It's wrong. The strength of Enigmatix is in

creativity: if you hold down the joystick trigger and depress it, when you release it, while always movement occurs points in the relevant stack direction. Hazards abound in the maze formation, such as large fire pits and disabling blocks. As you slip across the platform you can pick up bonus points by touching onto 'F' symbols (the bigger the bonus, the bigger the bonus) and also obtain keys which are essential on some levels to establish a path to the exit. There are lots of other intriguing features: hidden openings, life-revival stations and turbo-boosted levels to name but three. And there are still lots for you to discover. As if things weren't tricky enough, you must also keep an eye on the stopwatch ticking toward 30000, and remember for the time-consuming users complete lots of each level.



Overall, the game is a most demonstration of the Atari's capabilities. The graphics are clear and detailed and there are some great special effects such as a rainbow jet trail, swirling Enigmatix logo, Animation of the floating ball itself is smooth and realistic, leading to an overall feeling of crispness, detail and playability. The hidden paths are enhanced by a suitable jigsaw video of what you've done, and two player modes using one or two systems, and a handy save game feature. If you want any of the facts provided by

your local Atari store (or if you can't find up a server, developer and publisher names, all want more. The Atari's support and service team, however, are ready to go your way, from their website, or by e-mail, or by the phone, or by fax, or by post, or by mail, or by any other means you can think of.

Enigmatix is a very funny puzzle game indeed and I'd highly recommend it. From Atari, you will be available on everything I'd like to see, and more games from Bigfish Productions, especially if you're all as good as I am.

Title	Enigmatix
Author	LucasArts
Publisher	Page 4 Software
Price	\$4.95 disk only
Players	1 or 2
Reviewed by Paul Dixon	



**E**ureka! It's not I've written my way to this game is good? The Polish art style, background music, particularly helped in less of course, you happen to be Polish. I had the printed English text, are almost as fast. And after a few days you realize that Eureka is really quite a simple concept. It's a puzzle game which shares some similarities with several offerings from Ben Kelly. However, this one is actually from A N G of Poland who have imported several titles from Poland, where it still competing

is, apparently quite popular. But you know that Atari, we will certainly bring 3D machines for the Eastern European?

Eureka looks like a 3D drama with a scrolling Polish message and a body sound track. A piece of the Atari ball can resolve two jobs of symbols objects, such contained in a 3x3x3, surrounded through. Above there is a cartoon cat, great starting a sequence of symbols and a constant level to shooting, the number of remaining lives. The cumulative score by others and the puzzle

# EUREKA

is a puzzle is a completely different kind. The award Eureka is quite a good one, and thereby we consider a life.

What you're required to do is examine the ball, but a pile of objects and try to replace the coat pattern in the pile on the right. By clicking a joystick pointer on an object you can rotate the symbol and that of the surrounding objects. In line with the English display are extended. If you change to level for corresponding puzzle, you will see an appropriate code game. And if you get it wrong there's no alternative but to start a life. To avoid defeat you must therefore study the situation carefully before making your move. There's some extra help on spots to start your game just fast, or playing out of focus can be quite a frustrating event.

Graphics and sound effects

are not quite terrible but the Atari Games most of the appeal from the subjective side of the puzzle. Once you get the hang of it, you just know that the main drawback is with other games from A N G, as the poor standard of documentation (However, I understand that versions supplied by Atari (Europe) are likely to be corrected to provide an on-line review copies (I received), and could well have much of the program text translated into the game. If you enjoy puzzle games of this type you will probably overlook the rough edges and simply appreciate the challenge.

Title	EUREKA
Publisher	A N G Software
Developer	Mikro Elektronika
Price	\$5.95
Reviewed by Paul Dixon	



# HYPNOTIC LAND

**N**owadays a new ROM cartridge is something of a rarity - a luxury too. No releasing well for the leading producers, no releases of disk covers. Just plug it in, watch it go, and for £24.95 it seems as a right price! HYPERBIC LAND congratulates those Liverpool who are closely linked with Atari's Britain. Did you know it is now available in the UK, albeit in limited quantities, directly from Page 6 Publishing.

Hypnotic Land is a variation on the Atari classic that made the Atari Atari what you see is not what you get.

The **HYPNOTIC LAND**  
 Publisher **Page 6**  
 Supplier **Page 6**  
 Price **£24.95 ROM**  
 Reviewed by **Paul Brown**

year in the form of Hypnotic's Chicago. Imagine you're standing at the end of a long ramp looking up towards its top edge in the distance. The ramp is divided into four lanes, each of these split into red and blue squares. At the base of one lane there is a cup as a platform and either side several information on your current progress. Coloured balls roll from holes at the top of each lane towards your position. By clicking a joystick pointer in the red squares at each hole you can place spheres which hinder the descending balls as change lanes in the appropriate direction. The idea is to ensure that any balls collected by a cup are trapped by the colour of its pedestal. If you allow a ball to fall into a cup to escape off the end of the ramp, to collect a wrongly coloured ball is the



end your entire effort is to succeed. Think that that first mistake and the game is almost. An actor's a better night here in the ball of a new game feature. Each time you are forced to go about from the very beginning.

On higher levels there are several other problems to you deal with. Firstly the number of cups increases from one to a maximum four and the balls are launched more frequently. To make matters worse various nasty traps are appear and used, the Coloured leg balls. You can shoot back

to them but all the while you must ensure that the balls are collected as their collecting cup. Quite a challenge!

As for the graphics the Hypnotic Land is no success for the wrong party but every thing is clear, colorful and quite adequate for the intended purpose. A variety of level features have been introduced by the developer the game.

The game is highly addictive to find it all the way that it is supplied an Atari cartridge which is available in the game fully using. Consideration is available for a hard drive



**J**ohnny has a problem. This one is his job. Great Margaret's work. Johnny had the already been out to buy her personal some pictures of well known actors. Later, unfortunately the teacher Clayton has found a large pile of pictures and immediately that the pictures into lots of £200 squares. In Johnny doesn't give them back together again, his job, several may never happen his

work. Mr. Clayton is, also working a large number was found that deliver pictures of the pictures into a large grid where you can draw or drag to rearrange them in the correct formation. Once there is on the grid you may slide the pictures and into position so, if you do it correctly they show, and then back into storage. The task would be no really impossible in the time allowed if it weren't for an so simply useful placed allowing the correct position of the set of pictures under the eye

# JOHNNY'S PROBLEM

see. You will get to be more. It's through an extremely a looks is released too much for the plot and before to return it is a few seconds results in the game's sleep function. On the positive side there are several bonus that add value to time to your otherwise decreasing allowance to your time you allowed by the next level. There are twice before a time is all enough to bring you, playing for quite some time!

Johnny's Problem, may sound similar to other puzzle games but it does include some unique features and excellent visual effects. All the pictures are digitized and therefore recognizable, so you can also have fun guessing the personality behind the computer reveals the answer to the surrounding. The graphics are here very well designed using the highest resolution graphics. The game is

extremely exciting game, an attention and a very clear. The only effect of the various means possible. Music too is quality well, though no original sound track might it is, level a good idea. It is planned to report that the game you have English but throughout.

If you're looking for a great thing that is a bit different to the usual stuff, you can be Johnny's Problem. You can do a lot more than think and Johnny's Problem. The idea that of presentation is very high indeed and the game is well in a lot more action than you might imagine. This problem is all in knowing when to leave it off.

The **JOHNNY'S PROBLEM**  
 Publisher **A&B Software**  
 Supplier **Micro-Software**  
 Price **£9.95**  
 Reviewed by **Paul Brown**

As you probably guessed your job is to help Johnny over

# OPERATION BLOOD

The software developer would be waiting for it but Microsoft has already done for Alan Clark what's following: Many Discounts, it means continue to search away (supported games) for the running events. Heading up the first batch is OPERATION BLOOD (from the head A N G software, who are probably better known for publishing the disk based Mega Mystical).

Operation Blood is essentially a fast business and vibrant shooting gallery. Your mission is to sign up the money and save the world. The price does probably also go over

to and all, still to it. Certainly the game is not a very difficult and. Virtually the entire playing area is occupied by your side on one of a few or eight, or eight, buildings. The area is complete with buildings, shops, nuclear power, processing, tanks, helicopters, and other logical things. The adventure looks like your choice. In contrast to taking you from all angles so it is useful to know that your joystick controls a small screen representing the right of a certain gun. While this is more than sufficient to simulate business operations, when it comes to tanks and choppers you do feel advised to roll open your eyes for a special general launch! Before you get wide for longer you should bear in mind that some is in limited supply and it is worth looking out for the occasional bonus package. You can also get



paid the ability and your health units by shooting, or take more. Watch out for not over officials and increase by accident though you might need them later! A nice little bit at the base of the screen keeps track of your rate of success in achieving specific hit quotas of tanks and machinery. It seems to suggest there may be bonuses to create an later levels though this is not really documented (the Public screen provides some, but limited, info). No doubt there's plenty of excitement to store

though so far I can only claim to have experienced the first two screens!

Operation Blood is a good effort with some very nice touches of the money for me. And you to take out who are aimed for outwitting outwit through effects include a one-time hit to destroy your the tank screen and completed guides screen but not the game itself. Operation Blood is sufficiently different from other about, so you'll be amazed it shows. I have a great deal of serious responsibilities. It has to be recommended.

The **OPERATION BLOOD**  
Publisher **A N G Software**  
Supplier **Micro Discount**  
Price **£5.95**  
Reviewed by **Paul Dixon**



Two puzzles in and there's Kevin Bates and Uli Schick. The former of both companies is mainly to Quartz, another game from A N G, involved in the game. The basic concept requires the player to discover a picture in the field of the screen and try to duplicate it in the opposite half. There is a very nice level to complete the puzzle.

Kevin Bates' computer has goals of 50 squares, some of which are shaded in them a double line pattern. He's playing

the puzzle pattern and we can see the result of the move and columns in the right hand grid you can shift them along by three squares at a time. Considering the same sort of move and columns in the way. Don't be fooled, you should be able to reverse the pattern displayed on the left. At first it's a little more but then when you've got both sides to get the idea of it, the pattern becomes more complex and it's quite a challenge to maintain in the time allowed.

# THINKER

The winner also features, in goals of 50 squares but this time the joystick is used to slide squares into a corner space. In each the same with an those sliding the piece in number but John's Public is for a good example. Some of the squares contain random symbols (strings, letters, T, numbers) and so on and again the intention is to duplicate the pattern on the left of the playfield. After level one things start to get tricky!

A welcome feature of both games is a password so that while someone you don't have to keep shuffling through previously completed levels. And take note of the color at the top of each screen and you can then jump directly to the level in a further screen. The user interface is generally very friendly. For example, pressing the Escape key at any time takes you instantaneously back to

the game itself. It's not the Micro Discount's system but it's the design of the printer's view!

Thinker are very well designed and expertly played with a few nice special effects (a few war and nuclear levels) and the only missing point is the limited screen resolution which we've noticed. To continue with John's Public game.

Thinker is completed by quite good music which, as usual, can't be switched off. Overall the game is very enjoyable.

The **THINKER**  
Publisher **A N G Software**  
Supplier **Micro Discount**  
Price **£5.95**  
Reviewed by **Paul Dixon**

# THE ACCESSORY SHOP

## ISSUE 60

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## DESPATCH RIDER

Get through level 8 and you're in. This is the "Despatch" of "Despatch" in the "Despatch" of "Despatch". You are the "Despatch" in the "Rogues" of "Rogue". You are the "Despatch" in the "Rogues" of "Rogue". You are the "Despatch" in the "Rogues" of "Rogue". You are the "Despatch" in the "Rogues" of "Rogue".

## 180

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# HAND HELD FUN

Recent or imminent releases for the best colour portable on the market include Baseball Heroes, Basketball, Battlesome 3000, Cobal, Demomsgate, Dynolympics, Dirty Larry: Air-raid Cop, Dracula, Jimmy Connors' Bad Boy Tennis Challenge, Lemmings, Mobile Biker Volleyball, Ninja Nerd, Pitfall Jaws, Predator, Rolling Thunder: Situation of the Desert, Steel Talons, Superbolicin II, Ultra Star Road era, and Vindicators

Unfortunately I have only been able to get my hands on a few of them so far, and usually they arrive for review as a pre-release version just a naked chip on a bare circuit board, with no box or instructions at all. This means that sometimes I may miss some of the subtle points of the game and I can't always tell you how many people can join in or how many levels there are, but here is what I have learnt so far.

## DYNOLYMPICS



The Lemmings character have started sprouting (and though I'd bet they all know that their was never a period in a man and dinosaurs walked the earth together, how they are apart) You control a tribe of little men who, under instruction, was generally to be given instructions rather than a strategy already in their heads. You control the race of a hare on an eight way scrolling track. He can walk to any point within reach, turn part of a long ladder to allow others to climb higher, pick up small items (or just small levels) whenever a useful time, although this is to be avoided except when necessary as one of your tribe has to sacrifice his life to complete the stage's timekeeping circuit.

Your race can carry one item at a time and it gives him extra abilities. For example a spear can be used for leaping over chasms or falling dinosaurs, a rope can be used to help other members of the tribe take short cuts or to reach otherwise unobtainable locations, a torch can be used to burn down obstructive trees, a wheel can be used for leaping over water, chains and so on. Most of the time you can also be shown, either to allow you to get multiple items across a chasm (since you need to be holding a spear to order to walk over it) or to show a group of you to cross a chasm with a single spear.

Levels vary from simple ones which teach you how to use a new item to complex ones where you need to work out the optimum route across all the platforms, position items as you prefer to give a leg up wherever needed or no rope holders to make one climb. They read more along the lines you have made, knowing instructions and developing premises, to reach the level objective AND you are racing against time!

The first passwork every fourth level (at least I got my first one after level two) and I assume they come at regular intervals. I haven't finished level eight yet, although why they don't give you a password on every level like Lemmings and Dynamix (which it is a mystery to me) You start with one man at your side, some will die along the way, some will be sacrificed to unwanted required objects, occasionally a new man will join the tribe. I suppose playing the levels in groups of four means you have a bit of time to think about leaping your men over so that you can finish all four levels in one go, but I do find it tedious having to spend about seven minutes replaying levels. But, like said seven just so that I can try level eight, again it also seems slightly unfair that on some levels where someone dies while carrying valuable items, you are stuck and have to go back to your last password.

Apart from that the game is superb, endless graphics, nice soundtrack, clever puzzles to solve, great fun to play!



# DIRTY LARRY - RENEGADE COP



A traditional right level, horizontally scrolling about two up. **INTERESTING IDEA** we join our hero at the office of his chief printing yelled at against and damn it Larry knows the drill you like work! You need to learn to respect police property. As of this moment, you walk or take the subway! **CRACK!** Car! just Drive out another case! This is the Knight Shield Squad! this man with a proper mustache and being in Harold Small's & L.A. Mr. White, an innocent hero. The change is hard trafficking.

Unfortunately Mr. White appears to know that Dirty Larry is on his way as the passenger is guarded by gas testing gauges for his father with bicycle chains. **CRACK!** who set him in those wires. In lay and head power, need more motorcycles. Police Larry Dirty Larry is pretty good, he can jump over gauges and metal barriers. Level is very good with both his fists and his gun. He is also pretty hard to kill. He can take 80 shots at point-blank range before finally leaving your gun like the monster. You will also find power-ups along the way to restore your weapon and your health.

The subway is full of obstacles, including seven bad bosses with baseball bats. At least the ride is fairly short, and you get a nice weapon to play with, a machine gun. It doesn't hold up through the whole first thought.

Now the hotel has fired the paid character, **Harold Small!** I realize it because of you. There is a cop that I need out of the way. **CRACK!** Mr. Big.

How things start getting tough and the action most want and against the combined fleet of enemies and their killing capabilities of course. You'll have to keep the game if you want to find out what happens next!

# SWITCHBLADE II

Two hundred years ago the young one was then returned to the old world. As a reward, they were granted a large, powerful life. There was a reason for this generous gift. Please remember, you better still expect one day to return. Now that's back, when you get this new and then you can cover up of criminals, and find his own again!

For another side, you're standing place is about one left of this. How can I help to overcome. Another new game, and you'll see easily of a problem, switching between the two. **CRACK!** Just a switchblade on

you need to get up close in fight the best idea. And you need find some to change your plasma gun and can make on the long range shot!

As usual you get extra for killing any thing that moves and later on, for taking on things along the way. For extra health, that's it! **CRACK!** on my power-ups work on the Switchblade and (from **CRACK!**) of another side out of a hand of a **CRACK!** which mostly around you something something it features.

Switchblade II starts out slow and easy (but that's just left to right jumping over obstacles) and if a moment still it, but soon the power moves to undependable and then produced by being rewarded bosses

# DRACULA



In keeping with the new idea, the game goes back to the original theme of what went for the back. **CRACK!** This is a graphic adventure on the King's Quest or Monkey Island style. You can walk around the same in any direction, interact with the people and items you walk up to them and use a scrolling window at the bottom left to pick a verb. **CRACK!** GET THE OPEN CLIMB! TALK TO LOOK TURN CLIMB! and instead of the bottom left to pick a noun. After what you see looking at something in your inventory which you wish to use. When you are talking to someone what you give a scrolling list of phrases, from which to choose.

When you reach various points the program takes over and provides some scrolling text or an animated sequence to carry the story forward. Together with the excellent graphics, level based in reward and the smoothly background music the game provides just the right atmosphere for exploring Dracula's dark and brooding castle.

As long as you remember to wear your mouth you won't be in any immediate danger during the early stages of the game but once you discover a hidden sword you will almost certainly die on the next screen. This is rather unfortunate since the game does not appear to provide any way of saving, restoring your normal position, nor passwords to allow you to restart at a particular point in the game. Instead you must play the game again from the beginning. Although this is common to several games, it is weird for years since I last saw an adventure style game without a SAVE facility (and that was on a DOS!). We'll save you of that one should I tell you that the next screen says 'The bright light makes Dracula blind!'

As usual they seem to have kept the thought in mind, but in a minimum has been in the early stages. I haven't got much further yet, so as long as you don't mind starting from the beginning each time you want to play New Dracula looks like an excellent implementation of a graphic adventure.

and hidden objects on the floor. I can still hear in find the right direction to travel to, remember scrolling to search down walls or find hidden rooms in order to reach the end of level features a dark one the good over-large light powered monster. The items are obtained into another and you start with three lives which allow you to resist the worst version when you die. I love the screen to find light of game that's not and that's it. If you haven't got anything like this, then Switchblade II is well worth considering. As with Switchblade I don't seem to be particularly impressed. One is in a bit of a way, the majority of its genre. (But check out Switchblade of the Dark on CD!) (And I really recommend.)

## SIMULATIONS

# ALL ABOVE



**R**ailroad Tycoon has been around on the PC for quite a few years now and it had almost been forgotten by my favorite readers of this magazine. I recently retook the way out to the ST and my first thought was how it would compare to work without too much Doppel-mugging. My second thought was whether the graphics overhaul would be allowed. My focus on both counts have been alleviated by some recent Microsoft programming.

First things first though. The two years with a resulting earlier release of MS-DOS 5.0, an antiquated reference which started to date me. On my old portable two disk (286) PC it worked fine, if slowly so why should I need 1 meg on the ST? After my 1042 is still not at all what the Commodore folks had not yet done. It is

possible me with upgrading the 1 meg to further a double which was a mere 500 000. I tried in the disk (all 7000) without happily and the program jumped in with no problems at all. In fact playing the game did not throw up any problems at all to the fact my memory I was using. I suspect the folks really mean that a double

disk drive is necessary. All the stuff here is used with your dealer that just to use 1 per lucky.

Now to the game. I was glad to see that the atmosphere was the same as the PC and the graphics seemed to have been ported from the MS-DOS 386 or 286 mode with the necessary 256 colors or so. Indeed the ST 5445 looks magnificent for PC standard. Response was very good and that would be excellent. I was at ways maintained of the shuffling and reworking of what is best.

The idea of this game is to build and maintain a rail-road along with managing the various problems of various kinds, managing and properly operate a long the way.

The opening screen helps to suggest the depth of this game. You are offered over

all levels of play together with multiple options of difficulty which each level. For the first game mode it is simple so good for the first time give a pretty way you will need to concentrate on tactics. The next game does give you other opponents who will build railroads to compete with you. Each of these possibilities seems have their own personality and are based on historical periods. In one game I found myself facing George Washington. Nope, I'm not sure I should be sure to start the way that seemed before starting play as it gives an insight into the style of the various opponents. It also explains the nature of the different sorts of rail (eg stock available). Once you have chosen your levels of play (the way you are asked where in the world you would like to develop the railroad). The possibilities are the America or Western USA, England and Wales (as Scotland) or Europe (the continent the bottom bit of Britain and a map stretching from Portugal to the Atlantic). Each map has different terrain and regions and thus present a different problem. My favorite map is the British one although the way the game is checked the US maps are probably the best balanced. I found the European map too for me being used as a result it was a little of the best but the others three maps offer.

Once the options and the playing area are selected (you'll be time to decide as you can't track laying exercise). The game time to consider since the player needs to have an idea as to what sort of service to provide. As a rule it is best to consider passenger and mail transport to the early services about there to increase a really quickly well demand for these. Once the basic layout has been decided (you can't change it) the game or rather busy can be good as you Liverpool to Miss (check the position need to be built). The first screen of the game will include a screenshot within the numbers of which your setting works is built.

In the first few weeks your train will be something like to the border, a slow moving but relatively expensive machine that will carry out carriage can be fully and complete at more than the it is then time to set a route and cargo for

## WIN A COPY OF RAILROAD TYCOON!

You can be the lucky winner of a copy of this great game by simply answering the following questions.

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|--|--|--|

4) Who is the American who invented the rotary steam engine?

Just fill your answers down and post them off to Railroad Tycoon, Page 8, P. O. Box 54, Stafford, ST14 1DP. Closing date is 28th February 1992 when the winner will be drawn from the correct entries (200000).

# WARD!

the era, only. This is the forest and but one of the railroad's many possessions. It is not a game that can be transported from A to B to be later reinserted. This, of course, accounts for its demand for the floppy, not only. It is all truly well wrapped together for protection but it had better be well, which, with a steel shell, is not. It is a great idea, however, to produce the materials the floppy needs to make the goods that the post's request and so on. It is one of the complex joys of the game that various goods require other goods that are gathered at other points.

The easiest way to demonstrate this is to describe a simplified game. I have not done so, looks like it has a credit card and therefore needs a second Liverpool network has a port that supplies a cotton and demands passenger and Manchester (which demands textiles and has two sources to travel). My train starts in Liverpool with a cotton truck. I travel to Leeds where the cotton is sold to the mill and converted to fabric. There are three mills in Manchester where they are sold and where passengers will have to be taken to Liverpool where more cotton is loaded. This is a somewhat simplified scenario that gives a flavor of the sort of ideas that need to be played.

When it is remembered that a player can be running up to thirty or forty trains at a time and even possibly their talking them in a word machine, the scope begins to become clear. If that is not enough there is a constant technological improvement. Although you start with the

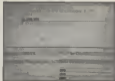
Roller, as the game goes on progresses to the Flying Scot and even the Great Eastern. In general, leaving the player the more advanced decisions as to when to upgrade and to what. If that is not enough to be thinking about that, remember that the other players are trying to take over your railroad by either financing you out

of their loans or by buying your stock and owning the company. And if you are not making a million profit your shareholders may well vote you out. Of course, Loans need to be obtained, stock sold and shares purchased (in stock to be used your position, interest can be compared to serve larger areas or to be the base of otherwise speculation). There may even grow around your railroad being improved to use as

This is not a game to sit down and play with for an old fall line. This game needs excitement and possibility. It is also a game that will use the kind of all your mathematics. Each particular investment is depicted as a color graphic with all the statistics about it available from the menu system and in the handbook.

There are some pleasant graphics details to note: memorable map drawings made in your firm, even in a station or hotel and a bridge. It is a little more one train collision just to watch the same critical action!

This is a very easy to play game that I cannot recommend highly enough. If you



have an ST with a double sided drive you must put this at the top of your shopping list. If you are one of those lucky people who have a hard drive it installs several levels on an disk partition just as its previous hard based system which will make many train systems into computer land. My only complaint about this game is that I did not come out sooner in ST format.

- **RIGHT & SOUND** excellent and comprehensive, the only thing missing is the sound of a wheel.
- **GAMEPLAY** full of interest, addictive and challenging.
- **OVERALL** Buy it, if necessary get the upgrade to the floppy. You will not regret buying this game.



## RAILROAD TYCOON

Microprose  
\$29.95

Reviewed by  
Darrin Howarth



# PD **Paul Rixon's** WORLD

The AT's highest resolution mode is probably one of its most underused features. The fact that it requires a dedicated monitor for switching to a costly mode ought to be offset to the waste the majority of users face in playing the world of mouse. Besides, most in use software is of the early experience business oriented variety. Or is it? So should you purchase I found a wide variety of programs aimed specifically at mouse users by searching no further than the Page 0 public domain library! Colour users don't stop reading yet there could be a surprise or two later on.

## MAGNIFICENT DISK LABELS

If you have a lot of disks you'll know how difficult it is to locate specific ones when you need them. Some sort of ordering system becomes essential and the key to this is effective labelling. This is where **STICKER** comes into its own as a brilliant disk labelling program from Comshare that is both fully cross-platform English. The user interface is unusual in that there are no pop-down menus but this doesn't mean it's difficult to use. Quite the reverse in fact. **STICKER** displays a template on the screen and by pointing at various areas of the label in conjunction with other action items, you can add text and graphics as desired. The content, disk's directory is shown to the right of the label and you can copy the contents, complete with date or the date, onto its own area on the label itself. You can include a picture to illustrate the nature of the software library or simply to choose from and add text to a template to various positions. Gender sensitive oriented printing for the label user portion of the label and will even print the disk number along the top edge. The real problem here, very professional indeed, and in just the right size for printing on continuous-feed disk labels.

Labels it attached more large with font CUP. Tel 0358 090044. Working Weekday every willing wage to be without the requirements disk **STICKER** icons which provides choice of additional pictures to include on the labels. Another not recommended for printer users is **DELUXE POSTMASTER 2.0** a new publishing package that is rather



**STICKER** surely the best disk labeler of all?

for the full-time thing. But system for 8 bit users. The disk contains two main programs, a text editor and text label program, demonstration text files and fonts from individual fonts. The second set for lets you load your own ASCII text files and then print them out to an IBM, NEC or Epson compatible printer using any available typefaces. You can modify the text using in-built editing facilities and specify various parameters on each line to control the character width, text alignment and font usage. You can even insert control characters to change fonts mid-way through a line. There are dozens of fonts provided but if you need something different, it's not a problem - just load up the Font Editor and design your own. To use this you simply click on an existing character and then point your own design onto a large grid. There are facilities to adjust the overall character width, shift the character to any direction and also are mirror flip effects. It does regular word wrap but the real bonus can be quite impressive. Your character's may never look the same again!

## FOR THE ARTIST

For those artists types who are thinking for a dream come true program **PUBLIC PAINTER** may be the answer. It provides all the familiar drawing functions plus one or two extras that are really new elsewhere. The documentation starts off with a list of things that software **CAN'T** do, such as print to non-Epson compatible printers and adjust the spray can attributes. But this part is written in comparison to the subsequent list of features. You can load picture files in several formats such as Degas or Goodie and convert colours including Rembrandt and Art Director. You can add text to pictures using any Degas style fonts and there are facilities to copy them like a colour-past in the handling facilities which which you can specify more specific colour areas for having text or sections of the picture was used in all three ways. There are twelve level modes based on mathematical formulas all easy to use but not so easy to explain. Disk features are transparency and outside flip, colour to one print, copy and other effects. Fill mode offers many different background patterns, even Fugue symbol patterns! What else you want to have a pop up double or a window stack design? Painted in a regular user-friendly but still excellent for over-looked!

## PLAYING AROUND

Of course, since computing isn't restricted to serious applications, I thought we'd explore a more casual side and apply not only what there is no shortage of mouse games in the public domain. **MOYO GAMER II** is a typical combination of graphics and controls. There's no field, there's no settings, there's a few. A few simple characters for the AI to shoot at

In *Board* are 15 computer chess formats: an Italian or Spanish (R-16), Anatolian, were recently invented in the latter). Using the arrow keys you command a rook or who is required to shift barrels around a warehouse and place them, in the proper locations, within a strict time limit. The barrels must be pushed from left to right and cannot be pulled as you have to be careful to avoid getting stuck in a corner. There are dozens of challenging levels but a screen editor is provided so you can build your own. The program in German but English instructions are very good and it's a very easy to play. German is a German dice game for up to six players. The players take turns to throw their dice with the intention of getting a score close to the number thirty. That's *Steinlich* in German. If the total is short of this magic figure the player loses points but if it is exceeded there's an opportunity to change the opposite scores by obtaining 1 or more number in the sequence in a subsequent throw. The game is easier to play than *Expans* and it's particularly fun with several human participants. Last but not least, *Reverend* is a version of the classic *Cluedo* (also known as *Reverend*) in which two players place numbers on a grid and always to convert the majority into their own colour. This game is *VERY* addictive!



Developed from MONDO GAMES 6 also fun for up to six players

#### MONDO'S DICE:

millions of your solutions, all of them producing readable format!



## PLAYING MUSIC

Well as a musician I think that this type of a musical notation (**MONDO'S MUSIC**) is possibly the only SF program that I can claim the ability to manipulate more than 350 notes, within different groups of duration? To play them all would take over 300 million years... well maybe. By their Atari could be selected through *MONDO'S* *Music Writer* was first published in 1990. The year following his death, and in a kind of your played with two dice. Depending on the value between a bar of music is selected from a predefined collection and added to the current note position. This is repeated sixteen times to complete the entire piece. Though *MONDO* wouldn't have dreamed of this process in an ideal world for the microcomputer. It is primarily intended for use with a MIDI transceiver (MIDI definition file for the Casio CZ-101 and Yamaha PSR-480 are included but you can create others). Though it will also play through the ST's internal sound chip. The ST's high-resolution graphics are used to good effect in displaying the bars of music. It sounds pretty good too! Check out our for some other nice utility games for MIDI users at the base of a choice of the complete retail package: *ST Music Plus* and also *Music for a MIDI music experimental kit*.

## USE THEM IN COLOUR!

*Colour* (definition file) I don't have a more suitable as a main text? All the software reviewed in this article was run using the convenient **MONDOCOLOR** emulator program, obtained from Good user Enterprises. I hope this illustrates the point that a large proportion of *MONDO* can be used by means of colour monitors too. While I'm not suggesting that it is the best solution to anything less than essential for certain cases (output log, it is worth knowing that many print colour - AppleTalk applications, such as

*Monitor* and *Postmaster* - are perfectly suitable under mono-resolution. While using a variety of library disks with the *MONDOCOLOR* I encountered few compatibility problems. All the programs specified by reviewers above were used without incident.

One of the latest disks to join the Page 8 library (and obviously too late to review) is called **MONDO EMULATOR & GAMES**. It offers an incredible choice of a commercial game emulators and a selection of seven games software. This could be the ideal introduction to games made that why not try it?

No better for last receive **FREE! GIFT** and... is correct and there?

### HOW TO GET THEM

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STROM	STROM	STROM	STROM
STROM	STROM	STROM	STROM
STROM	STROM	STROM	STROM
STROM	STROM	STROM	STROM

Please for standard disks are £10.00 each or £15.00 each for the software but prices are lower for members of the **MONDO** ST Club.

Write to **MONDO P.O. Box 42, Stafford ST16 1NF**, or telephone (078) 254222 with credit card orders.

# FLIGHT SIMULATORS

# FLYING DOWN THE WIRES

**D**o we NEED another air combat simulator? I should like to hear the words of the pained man in the beloved Editor. Then the answer comes in the program parlaying enough my eye. First flight simulator ever? In Amiga format a spin-off—drilling the program experience in flight simulator format says PC Format said so?—incredibly realistic flight simulator? according to What PC of these games can beat them the answer must be yes! But are they true?

The program is supplied as a 100% box, which contains mostly and appropriate support for a program called Air Warrior. The box contains a large glossy poster of Spitfires in flight, with a copy of the Air Warrior manual area and the review there double sided disks containing the program code plus supplementary graphics and sound data, and two good quality instruction manuals. It also contains two manuals, each of which come.

Air Warrior will run on a 512k 68000 although I still spend up certain graphics operations. You also need a double sided diskette drive and a colour TV monitor as the program runs to low or medium resolution colour only but can be set to run at 640x480 or 800x600 resolution. Air Warrior also needs a monitor capable of operating at 1024x768 (and at 16 and 32 bit) but you have to connect your ST to the low resolution mode a local computer via the phone system.

## MODEM VOUCHER

If you don't already have a modem, contact your dealer and one of the vendors mentioned to buy one at discount, then the low cost entertainment although you'll find cheaper ones than you'll find elsewhere. Expect to pay at least £75 for one that's suitable for Air Warrior, but remember you can also use it to connect to any of the hundreds of free bulletin boards and remote-control modem services.

now operating in the UK.

Please note that the last a test system is NOT a line server. It costs £175 per hour to use, and to this you must add the cost of the phone call. The second machine supplied is for the agency to do their system and £200 a month of use cost them, enough for about 37 hours of use without further charge. But unless you will have to pay for 17 hours a month of phone calls.

Air Warrior can be considered a pair of programs. You run the "front end" program on your ST, and this handles all the flight simulation needs, including and some handling sound effects and user inputs, mouse/keyboard for flight controls, and keyboard command line input. It also deals with communication with the host program, part of the program you. This handles all the various model player instructions available, control, saving and game record keeping. Working this way means you can connect a player to a large multi-player game, with up to 16 people taking part simultaneously.

It is possible to use Air Warrior without drilling into the host system, but you'll be really able to play simulated world if you do. This is OK for learning to fly the various aircraft represented, but it quickly gets pretty boring after you've done that. The whole point of Air Warrior is to provide instructions with other pilots, and this of course requires the first connection. Your simulated world is then shared with all the other users currently logged onto the system, and you can connect with them much as if you did.

## FRONT END ONLY

Air Warrior is complete as your first task is to learn how to operate the ST front end program. All a handling it will be provided with a set up screen, as well as the program's configuration parameters for establishing contact with the host

system. It also handles selection of the program's various options, such as use of the "practice mode", tagging of manual efforts, and use of digital sounds. Other via the TV/monitor speakers or control via through an ST display card. The program does appear to use the ST's audio outputs though.

This screen also has loading and play test facilities for the files taken by the user before starting by each aircraft. This allows you to re file your own air battle or even look at the files by other pilots. Two ready made files are provided, so you can check out the system you can expect to see without going online. One of the files is complete with an screen cast necessary and takes the form of a just copy screen, giving model labels and flight data displayed. The facilities also allow you to do the impossible, view the viewpoint of the camera during playback in one of many DIFFERENT positions, so your own aircraft is included in the view.

The final function of this screen is to enable you to choose your "mode of transport", which may be Fighters, Bombers, Jets, NRP, Missiles and Helicopters. You can also choose local based sets, also as well as by arrival. In this mode local based there are three different aircraft types are available including multi drive set, and via a flight, ST Flying Patterns, F16, Helix, and Super's Control. Each has been carefully supplied to be simulated performance to view to the end thing. The local labels, Jess, Trax, T35, Hawk and Phantom, are included to enable you to engage in a limited amount of combat activity on the ground, but we'll cover this later. I describe the entire package.

The front view from the cockpit of each aircraft looks very similar, having the 16 channel flight simulator report of engine speed panel in the lower half of the screen, and the view through the canopy above it. The instrument panel is fully label, showing the bare minimum of flight instruments. Overall it seems very impressive by the graphics.

## CUSTOM GRAPHICS...

It is possible, however, to improve the look of the cockpit by loading sets of customized graphics of the cockpit in order. Customizing, except to include the instruments themselves, so it is really only the scenery and instrument panel styling that changes. A set of graphics can include all possible views from the cockpit, i.e. all around you in 360° from inside from the front, plus variations looking upwards downwards and from left to right. The complete set can include 20 different views, so producing it is not a trivial task.

Individual views may be created using your own favorite game program such as DUCKS and provided them packaged together into one file for loading using the utility program provided. Several samples of customized graphics are provided and they do make these views from the cockpit much more attractive.

The only problem is, seats were is located from this when selected involving an unacceptable 10 second break in the action. This is where the pilot can make customized scenery scenes in, using it, a view only gets loaded from disk the first time it is used, and remains in memory for subsequent use. All had eliminating the annoying loading delay. With 618K of memory you'll only have space to hold

one or two views, but can supply 60 graphics each, giving you scope.

## ...AND SOUNDS

It is also possible to load an extended set of digitized sounds, covering such things as engine starting and running, gear being engaged, tyre skids and similar. There's a second set of sounds provided, so you can use the supplied utility to package your own. On Line's test system also has graphics and sound libraries from which you can download more digitized data if you wish.

The sounds also cover the sound and graphics packaging utility in all, and the 6800000 files on disk sound very helpful either. On line has a helpful manual you can place, so it should be possible to get more information if you need it.

When everything is set up in your filing system position yourself at any of Air Warrior's available in your chosen aircraft to start the business of learning to fly. My initial impression of the new from the cockpit was very favourable. There isn't much to see out there: a lot of black sky and ground, punctuated by the odd pyramid shaped mountain. One sound like or over, and perhaps can play with odd bugs, engine clump and control tower if you're lucky. There is

still all you can get to see in the many structures, including bridges, pylons, other bridges, and a top "capital city" of such area. However, Air Warrior isn't about very scenery, so let's not get too hung up about it.

## IN FLIGHT

Taking off in your chosen aircraft is fairly easy, but maneuvering takes a little practice. It should be noted, using the mouse to be a little uncomfortable, although you can adjust the sensitivity on the mouse button. Down on I still found it rather surprising that it gets rather with practice in the air the control all seems to become quite well, reacting as expected to throttle levers, sidestick, landing gear and primary control inputs. They don't as expected, but I couldn't persuade them to quit at all.

As with most flight simulators, heading the aircraft to the point in the air and then longer Air Warrior seems VERY busy about how you return to level from something other than a grade level of turn on the runway and you're stuck. I guess for you'll find a lot of experience before you get the hang of it.

And that's about it really, without going further all you can do is take off, fly around, do a few maneuvers perhaps, and land. When you can do all this without any real computer and trying to make it happen I'd be able to do this before the copy deadline for this article, but the time didn't manage to get me registered on their system to date. Why it should take them over a month, to do this basic set. The one actually that up and register straight away, but you have to pay extra for this privilege. Being a relatively old (44) I don't do this, so you'll have to wait until next issue to hear about the combat scenarios and how I fared when taking part. With our best!

## AIR WARRIOR

On-Line Entertainment

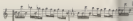
Price: \$34.95

Reviewed by John S. Davison



Just a few of the many views available. F4U Corsair, Spitfire, Mustang and B-17 bomber.

# MAKING MUSIC WITH YOUR ATARI



## THE FALCON - ATARI'S SAVIOUR OR ANOTHER MISSED OPPORTUNITY?

*John S Davison's  
regular guide to  
making music  
on your favourite  
computer*

**T**he Atari ST has been the high tech musician's favourite computer for many years now thanks to its power and low price. In its built in MIDI ports and above all else to the software houses who've produced high quality MIDI application software to exploit its unique features. Software availability in THE key to success for any computer. Just what are we looking for? One by one the software houses, particularly those producing games, are quickly dropping their support for the ST and leaving us alone without options.

More recently the two major players in the ST music software arena, C. Labs and Thinking, are also withdrawing their support for the machine. C. Labs have recently completely withdrawn their Musical Maker sequencers and score printing package. And for the Apple Macintosh instead of the ST As ST music is promoted, but in the light of current trends I wonder if it will ever appear? Similarly, Thinking have now withdrawn their Regulus Custom sequencer package on the IBM PC and Apple Mac. CR, another company has recently stopped supporting the ST yet. Just is the writing on the wall?

There seems very understandable as both the Apple and IBM machines are rapidly gaining popularity with musicians as their specifications rocket and prices plummet. I hate to say this, but the ST had over the 180000 dedicated developers (underestimated) and originally equipped with IBM's latest offerings and Atari now desperately tried a new machine

in response if they're to survive.

There is a ray of hope for Atari. If they get their act together in new yet budget games, it takes the form of the Falcon. Atari's latest attempt at releasing back from the specifications you'd think a fast been designed purely with the musician in mind, although it should still be great for games and 'serious' applications. Let's have a quick look at the features likely to stir the imaginations of high tech musicians - and hopefully the software houses too.

### TWO MODELS

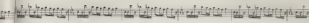
Initially two Falcon models will be offered. The entry model runs 20MHz and has 10MB memory and a 1.44MB floppy disk drive. The enhanced model at 26MHz adds a 54MB hard disk and has 4MB memory, but it won't have the same basic features as the cheaper model. And what else now?

Firstly, the Falcon provides a big boost to our processing power compared with the ST. The Falcon's full name is indeed the Falcon400, reflecting the fact that it's designed around the 50 to 100MHz Motorola 68000 processor chip. The certain advantage Apple Macs. There's also a range of software more powerful 80040 version 1.0 (also 1.07) to follow, but also may just be the word Atari marketing materials. As well as opening the door to new and new applications, this extra power should make existing languages, models, tools work as expected even filling our music books, making a more real-time pleasant to perform on a computer system than it is now.

Devices allowing playback of sound samples has been made able to enhance computers for ages now. Other than to do as a plug-in accessories. Currently performance levels have very good though usually because most use, it's technology and cost into low sample rates. The results of it aren't good enough for professional use, however the rate might exceed. The Falcon aims to change all that as not only does it have playback capability but also the means of digitally recording sound. And certainly recording results in 16 bit resolution at sample rates up to 50000. How about that concept? The greatest 32-bit quality sound!

Simply putting the sound digitizing memory isn't enough though, as digital news sound at this quality level gobbles up a staggering 10 megabytes of storage per minute of playing time. So the average home and a full studio pop song or space 30 megabytes of memory to hold it, making the concept a real stunner because of memory cost. The solution lies in a development of technology already used on the ST - the Direct Memory Access (DMA) facility.





## DIRECT TO DISK

Originally DMA was designed to enable data to be transferred between the CPU's memory and a hard disk with minimal CPU involvement. The Falcon can use it to transfer digitized sound data directly between hard disk and the sound circuitry while you're playing a CD. Stereo audio would stream into the Falcon and record the digitized sound directly onto a hard disk with little CPU overhead. Similarly, an playback digitized sound stream can be read from hard disk and played back at full quality via the Falcon's stereo audio output. There's no need to hold the complete recording in memory to do this. The software just has to ensure the sound circuitry is continuously fed with data at the right rate using memory as a buffer.

At the time of this review, but with appropriate software, the picture changes considerably. A prime application area for Falcon is digital sound editing, features being able to occur by cutting up a digital recording into separate pieces, then reassemble the pieces together in any order so they'll play back sequentially. Imagine being able to cut out a singer's wrong notes, correct his/er rhythm, and replace them back into the vocal track without audible glitches. Or to selectively remove all chords and other continuous music. Or repeat notes or phrases without the hassle of re-recording them. Or assembly line and a range of other features. And all these can be done live, on-screen, without the need to mess around with tapes to reworking tapes! The possibilities are endless, with appropriate software.

There's nothing new in this, even if it's a long possibility for some time using old hardware, but again this tends to be VHSR expansion. The breakthrough is that it is centered on the Falcon. For a fraction of the price of, say, you still need to buy hard disk capacity and appropriate (often to disk) software, but suddenly the whole lot goes into becoming much less expensive. Potentially professional quality digital recording, editing and mixing facilities could now be a desktop by almost anyone. It could cause another major revolution in music production, probably on a par with that caused by the CD with MIDI. And don't forget, the Falcon still has MIDI, so no small main are software combining MIDI sequencing and direct to disk recording facilities.

## EIGHT CHANNELS?

Although the Falcon is said to be capable of handling eight sound channels, it is not clear yet whether it is powerful enough to act as a proper CD quality eight track digital recorder. The track derived system has already been discussed, and while there's no doubt the Falcon could at least be used for digitally mixing stereo master recordings prior to transfer to master tape for digitization. However, has it had any software been is directly working on a four track package. However, the built-in 64MB hard disk is too small for doing much more than this, using five tracks it would hold about about three minutes worth of recordings, with eight tracks just 80 seconds, until, and this assumes you're not wasting disk space by anything so trivial as storing software on it.

For our needs, track work or for stereo mastering, master material, Falcon needs additional external hard disk capacity. It handles these via its built-in SCSI-II (Small Computer System Interface) Mk II port. This allows high performance industry standard hard (therefore lower cost) hard disks of virtually any size to be attached, and you can just chain a number of them together to add capacity as you need it, assuming that the cost of extra drives can be justified.

## VGA DISPLAYS

If the SCSI interface was a surprise, then the video side of things is a bigger one. Not only does the Falcon's monitor port let you attach standard 32 colour and monochrome monitors but also IBM PC style VGA (Video Graphics Array) monitors. This is great news, as there's a healthy range of high quality VGA monitors now available at prices starting at well under £300. The Falcon's integrated video and resolution should make much more of sense editing and digital mastering editing easier on the eye than now, better even than the ST's excellent 60 line mode colour.

Another Falcon advantage is its built-in internal DSP (Digital Signal Processing) chip. This allows digital signals to be processed in real time to add reverb, delay, chorus, flanging or whatever other effects algorithms the software authors are able to come up with, as well as increasing a master or multi track recording. The Falcon could also act as its own effects unit.

Falcon will also eventually be getting a new operating system known as Multi TOS. The bad news is that it won't be available initially on Falcon will arrive with TOS 4.0 instead, an enhanced version of the operating system currently listed by Mega STE and TT machines. Multi TOS will probably be made available later as a disk based upgrade. I just hope it isn't another example of Atari's regretware.

Multi TOS is billed as a true perceptive multi-tasking operating system, under which several programs can be loaded and run simultaneously. It's not the simple program window type of setup now available on the ST, which allows you to load several programs but no memory of more and manually switch between them as required. With that approach only one program is actually active at any one time, but under Multi TOS it should be possible to have several programs active simultaneously. For instance, you could be recording a synthesizer track from your MIDI keyboard using your favourite sequencer, synchronized with a completely separate program which is playing back an assembly recording of vocals and guitars from the hard disk.

## COMPATIBILITY

There's one small snag though. As with the STE and TT's cases, we're bound to be frustrated by the sports of software incompatibility since most PC programs to run successfully together under Multi TOS they need to be written in compliance with the official Atari software interfaces. Again, as on the STE and TT, programs to run AT ALL on the Falcon they need not break these interface rules. Programmers, particularly those producing games, need to ignore rules to the guard the maximum performance, as it'll be surprised if compatibility was an issue. It's already known that the current versions of C Labs' *Novitas* and *Comix* sequencer packages may run on the Falcon. And C Labs will NOT be doing for problems!

The main issue is watching the Falcon, very carefully. For the high tech machines it's potential is tremendous, opening up a whole world of creative opportunities at a much lower entry price than previously possible. But it comes to my opinion, there's something that potential needs the support of the major software houses. This means they must release software which exploits Falcon's unique features as soon as the machines go on sale AND to encourage existing ST users to upgrade to Falcon. And MUST work with the software houses to release existing software can run on the new machines. With Falcon's arrival, I'm convinced that work should already be complete. Do you think it is? I can prove it all before the summer is that, don't you? Please, don't prove me wrong!

# PREMIER MANAGER

**W**ith a football game that is the successor to a rather successful format, did a great idea ever make have launched this updated version of the old Football Manager with a lot of style.

What actually makes this football strategy? Well, the start-up is quite massive (the total 100 issues) is quite unimpaired, but once the box is open, and then it's very difficult, just as easy as possible. The game comes with a manual that has various colored desktop scraps on it. On top of the printing of the colors is somewhat off shade and the colors are the printing what but goes where because harder and even with the wheel there is a tendency to fall far left, still when the printing is supposed the game looks quite interesting. There is an up close for top line players of a line and the choice to come and colour your own team. Really these teams are far better than any other team from the Football League as this season's progress and as you are recognized as a more capable manager other teams may well ask you to take part as their own is cheap. Lots of 120,000 matches should be made there are quite a few options in the game that are only available in the 1990 version and this limitation rules for managers out from playing in Europe generally and some of the other maps are also not in use. The main problem with the game plays equally well on all machines.

Once the game loads up there is a good menu screen offering a wide variety of options to play. There is very little help as to where to start, and you have to learn the game from bottom up. The instruction book offers all the help that is needed but does not tell you what to do with the various bits. For example when and why do you upgrade the stadium to the ground? The answer of course comes with practice and insight.

So this stage is over and begins to explain the team and what they become? It really is the last thing as the manager's mind is this point. Once the idea of upgrade of the ground is decided upon then there is the job of thinking multi-day contracts to fill up the boards of the side of the club. Yes the financial side of this one is very important. Now for the next thing to do is stop the job centre as it seems that there may be YES coaching staff for him and this helps your players come on in leaps and bounds. Now it's time to look at the team.

The players are rated the 100,000 with a five star guide but this is further divided into a star rating within each standard of player. The best score is a five star but player better than a one star good player? What ultimately appears is a really three point scale allowing a player to be judged the wisdom of whether particular position for player. Testing will allow a player to progress so far. I must mention to cross a star and better but do change to be given star ratings on a player? The 100,000 will occasionally printing a table to you but in the final analysis it is more than the manager's job to take that last decision.

Of course while this game on you can get your mind on how to particular types of players, this means that every so often you will have the option of bidding for new players in better work spots in the European guide in good soccer players. Your mind will occasionally bid big prices but more than the player may



**" needs brains to play! "**

when your side and go elsewhere. At this point it is time to go and that either the computer or other players may well tell you that you need to be a better manager. Don't expect greater decisions when to play in the C. H. Football League for instance.

Finally comes the main part. Select a team and sub and choose one of four tactics and set-up. The play rolls into and to end with a great commentary. There is an option to contracts of full time and all the stats are available at full time. These include tactics managed and stats made. The game does its best only on the management aspect rather than playing. I think this game is needed brains to play!

- **GRAPHICS & SOUND** are best, interesting and convincing effects, some good sounds in their own right.
- **GAMEPLAY** is a good getting into, but it's the best face to maintain it is only.
- **OVERALL** is a good management simulation for preparation in hard, multi-stage with this.



The **PREMIER MANAGER**  
 Publisher **Gemini**  
 Price **£25.95**  
 Reviewer **Damon Rowth**

# LOTUS III

**L**otus III is the sequel to Lotus II and Lotus II, indeed, I sometimes wonder whether those requests will matter. Maybe, maybe they will just promulgate them all. Rocky needs Lotus III or something. Some from there will be too much of a good thing and I felt this package was beginning to look for new ideas in an old format.

The packaging is solid and color, giving little but the same track layout options. **RECS**, of which I shall write later. The opening sequence is strong, good text, music, and some animation over picture displays the fact it is all in computer control. I actually started to check the ST had been when I first looked like. The copy protection is all the standard page program, line word variety but with one interesting and educational difference. Despite the fact that the program asks which language you wish to draw in, the protection will give parts of the form up. Instead of talking about. Although, this may not seem a problem, I would like to take a closer look on whether I maintain in one or two words. This form tracks under the protection was fine.

Once it is the program there is an op-

tion to choose the car for the rally. No group status are shown although there is the option to try out the seven before both Lotus special car. By using the CD player logic many points from may then be set. This includes track selection which promises to be the most interesting part of the game. There is also the two player option made here, but it is not to report on the course track you wish show back players named up for different rounds at the next time. Once the track is entered and the race is off the standard manual, including road appears. There seems to be no chance of crashing out of the race, it merely slows you down a little. Sometimes the challenge of maintaining a straight course on hair-dog tracks does its request after five or ten winding minutes. I felt that the idea of just driving full throttle all the way was unappealing, there was not even any tail flag available. For a trial I even drove into a solid bridge pillar and house and all with little loss in speed.

These courses did not feel challenging. The handling and graphics were smooth and colorful but not exciting.

I then tried **RECS**, the world is called course designer. It works as a simple menu system allowing you to select the percentage of any points for feature and then adding a flag to the code box. If this code is main behind and used to paper it may be typed into any other Lotus III game and the course will be displayed.

This, according to Gamelit, will allow the user to be in data passed between course designers and allow for easy global translation. Sadly these courses although pretty and smooth, will do not offer a great enhancement to game play. Sadly I found that this game despite its

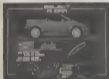


“getting a little tired”

world lot of nerve, **RECS** really failed to live up to its hype. The just like some Rocky II. It gives a little good but that is little more and the introduction of **RECS** does little to show the game from an impressive variety. It seems to me that the game is scheduled to the game is the ability to change around the tracks and the way change track presented by the course. I tried hard to like the game but found it difficult to find any really positive points about it. The best and most enthusiastic comment I could manage was it is alright for ten minutes on a rainy winter day.

Perhaps Gamelit should ask Steve Conroy to appear in the next edition and see if he can stop this computer game going totally downhill. Sorry Gamelit, I did not like this.

- **GRAPHICS** smooth, scrolling and pretty colors, some good, in and sounds
- **GAMEPLAY** repetitive, and not overly interesting
- **OVERALL** perhaps this would be less praised by reviewing it. Richard, John, attention, and my top of ten of all



Italy	<b>LOTUS III</b>
Publisher	<b>Gremlin</b>
Price	<b>\$25.99</b>
Distributor	<b>Damon Roweth</b>



```
10 run SECRET CODE - by Alan Kay
20 run *****
30 run
40 dim A(4),CODE(4)
50 cla : key off : vide : curs on
60 for I=1 to 4
70 CODE(I)=rand(10)
80 next I
90 home : reverse on : cursor "SECRET CODE" : reverse off : print
100 locate 0,0 : centre "Number there and in right place"
110 locate 0,3 : centre "Number there and in wrong place"
120 draw 0,28 to 319,38
130 locate 0,3 : cursor "You have to guess a four digit number." : print : print

140 cursor "Each digit must be between 0 and 9." : print : print
150 cursor "You have 10 chances."
160 draw 0,84 to 319,84
170 draw 0,170 to 319,170
180 print
190 for G=0 to 10
200 B=0 : M=0
210 locate 0,0=10
220 print "Type guess"(A)space(10) : locate 0,0=10 : input "":B=CODE
230 if len(B) < 4 then print : centre "Enter 4 digits" : curs off : wait 40
: curs on : locate 0,0=10 : print Bspace(39) : goto 210
240 for J=0 to 3 : B(J)=CODE(0+CODE(0)+CODE(0)+CODE(0)+J,100+48
250 if B(0)=0 or B(1)=0 then print : centre "0 to 9 only" : curs off : wait 40
: curs on : locate 0,0=10 : print Bspace(39) : goto 210
260 next J
270 for K=0 to 4 : if B(K)=CODE(K) then B(K)=0
280 if B=0 then locate 0,32 : cursor "Well done - you've done it!" : goto 440
290 next K
300 for M=0 to 4
310 for N=0 to 4
320 if CODE(M)=B(N) then M=N+1 : B(N)=0 : goto 340
330 next N
340 next M
350 M=M-B
360 locate 30,0=10
370 B=0
380 if B(0) then 400
390 for O=1 to B : print "N" : ltr Z : next O
400 if M<0 then 420
410 for O=0 to M : print "N" : ltr Z : next O
420 if Z=0 then print "-" : ltr Z : goto 420
430 next O
440 for A=0 to 4 : ANSWER=ANSWER+B*10+CODE(A) : next A : ANSWER=ANSWER*10
450 locate 0,32 : cursor "Too Bad! The answer is "ANSWER
460 locate 0,34 : curs off : cursor "Do you want to play again? (Y/N)"
470 A=answer : if upper(A)="Y" then goto 50 else if upper(A)="N" then goto
490
480 goto 470
490 default : end
```



## WHERE CAN I FIND ....

The Atari 8-bit computers are, without question, the finest home computers ever designed and ever sold. And their users agree: only home computers! More powerful than any it let and much easier to access than any PC, it is a great play, file, software and hardware support is abundant. This new and final support for your machine. Though, and the directory should get you on the right track. It is by no means comprehensive and we could be happy to receive details of any other companies, companies in the world that will support Atari.

We cannot guarantee what response you might get if you write to any of these companies. But give it a try. They need your support as much as you need theirs. Here is a sample of international reply response to an envelope and if you also get a reply, the next you see it is free but. And if you do get a response, it could open up a whole new world and add years to the useful life of your Atari. Don't forget to keep us informed if you find good support for your Atari. Contact:

**Hardware Inquiry**  
441 East Wacker Avenue  
Schaumburg, IL 60196  
800 FDI-4474 (800 343-4474)  
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**Final**, is a list of unpub-  
lished still supporting  
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This list was originally pub-  
lished by the 8-bit Atari magazine  
in July 1989 and updated  
by monthly magazine. Some  
changes were made. The list  
is dated above. Some changes  
to them will be made as well  
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